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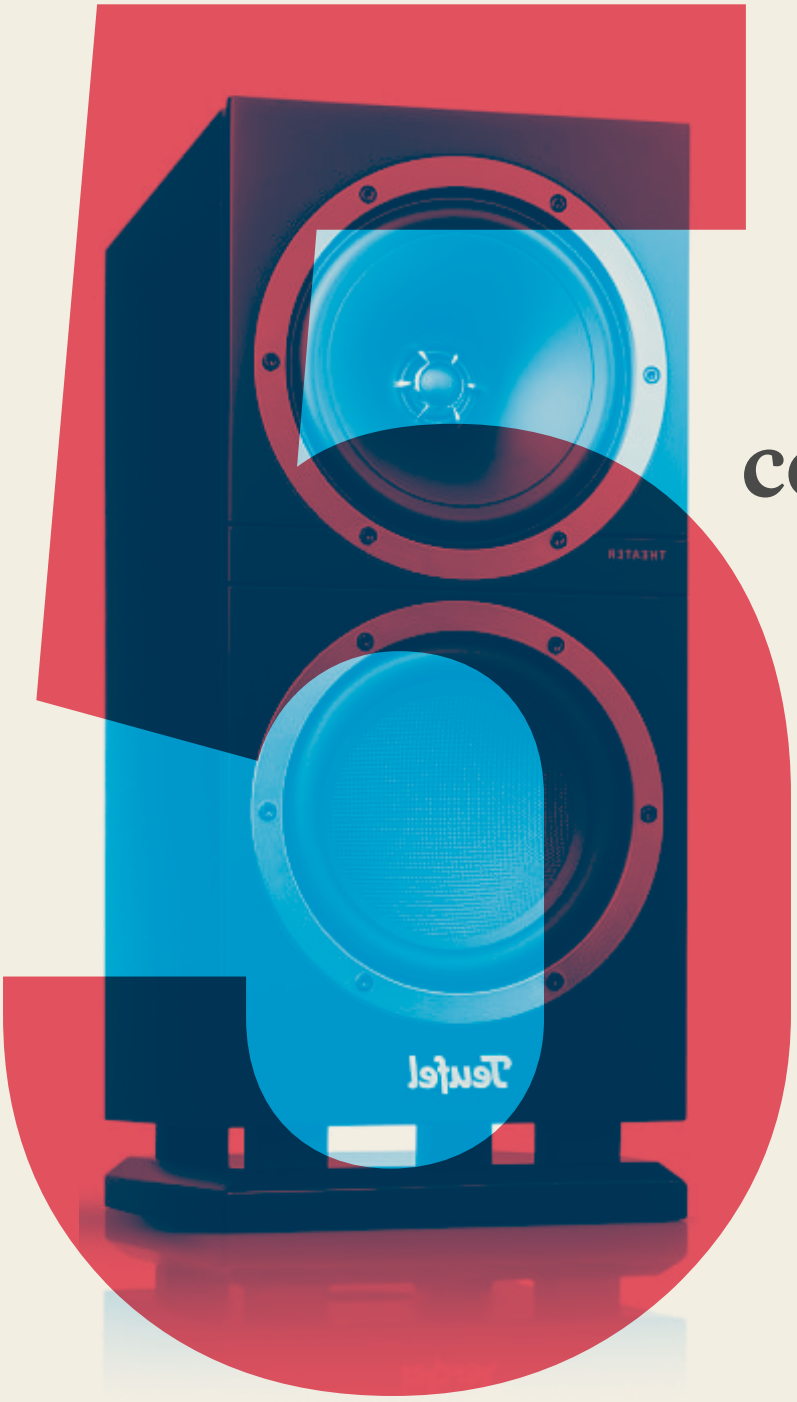

Listen, create, connect.

On sound in education

The scientific publication the Journal of Sound, Silence, Image and Technology (JoSSIT) grew out of the research group of the same name (SSIT), which is linked to the TecnoCampus centre as part of Pompeu Fabra University (UPF). The journal seeks to bring together academic debate and scientific research on the relation of sound as a broad concept with an audiovisual context.

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Listen, Create, Connect: On Sound in Education

Introduction

Of all the senses through which we interact with our environment, hearing is one of the least consciously explored in current society, with visual culture predominating – we receive most of our stimuli through sight. However, music education focuses on the importance of listening and auditory education, not only as a basis for teaching processes (learning in the teaching of music) but also the communicative processes that influence how much societal progress is made in education and learning. The elements of auditory language (or auditory expression) come together in a communicative structure that activates the imagination and appeals to people's memory and auditory imagination. The formation of auditory imagination, or auditory representations stored in our memory, should be a central guide for teaching processes in music education, within art education, while we seek to balance the use of the senses when evaluating the world we live in, with its sociocultural expressions. However, we must bear in mind how cherished auditory representations will result from auditory perception itself, the prior experience and knowledge of each person, their physical attributes, and the collective imagination that can steer the mental perceptions of what we hear on a social and cultural level, depending on the groups we belong to. Relatedly, sound – also a component of music – can trigger creative processes in the context of music education. Auditory language includes sound and noise, the voice, music and silence, and its involvement with imagery in art education is also particularly interesting for music education, including within art education. This considers the links with imagery in various audiovisual formats that are currently of interest for music education, in studies that evaluate the educational potential of auditory language through formats such as music videos, while digital media and online consumption platforms transform habits surrounding and access to music consumption. This issue contributes ideas for resources and methodological strategies for working on the auditory dimension, following innovative proposals, while reflecting on representation, identity and auditory interpretation through their application in music education. The monograph begins with Daniel Moro Vallina's contribution, which proposes an interdisciplinary approach to music education in teacher training with a valuable theoretical foundation. The professor suggests an educational approach that goes beyond the traditional vision of the phenomenon of sound as a technical-instrumental language associated with reading a score and responds to how we currently consume music, the didactic potential of sound in connection with other curricular content, and

current resources for auditory experimentation linked to the digital environment.In Albano García Sánchez's contribution, we discover a novel project for working on auditory creation through guided music transformation processes, directed towards university students. The author places value on the needs of auditory education for developing auditory awareness during creative teaching processes in music education. The methodological strategies of music education at university level are therefore of particular interest in this article for supporting the understanding of musical elements in an experiential way during group sound composition. He also considers the influence of popular urban music and digital platforms for students' music consumption, just as these aspects are assessed when analysing university students' listening practices in the next article in this issue.

Marcela González Barroso evaluates the trends in the most listened-to songs on the main music dissemination platforms while reflecting on how these trends in music consumption can shape collective youth identities through the digital environment. Following on from previous research, the author delves into adolescents' and young people's musical behaviour by analysing the most-played songs on YouTube and Spotify. She then touches on music trends and songs for a teacher training context using the results of her research at the University of Oviedo. The author offers interesting points for discussion in future work about the creation of inclusive musical experiences in classrooms, the elements that define identities, the ways that young people perceive images in music videos, and the limitations for obtaining results from digital platforms.

Saray Prados and Claudia Rolando offer strategies for choral work in the context of secondary education, taking into account the peculiarities of student development, while reflecting on choral sound. Sung vocal practice in adolescent groups requires specific tools for evaluating the development of ensemble sound through the individual assessment of choristers. The authors provide a useful means of recording different categories to work on, with suggested exercises for training choral sound. We believe these proposals may also be adapted to vocal education in other stages of education, such as teamwork exercises through the notion of the choir as a cooperative group, considering too the importance of this methodology for the project and skills-based work that the new LOMLOE Education Organic Law (2020, 2/2006, of 3rd May) supports.

The final article was written by the editor of this issue and examines the importance of developing listening in music education, which is connected to the other authors' contributions but differs in its focus on trainee teachers for early childhood education. It brings together didactic proposals for auditory education that use imagery in various formats for pedagogical support. The author also proposes other activities for university students' music education, following on from her previous research, but also evaluating imagery in this case, using resources that allow for different forms of auditory recreation and performance.

This issue clearly demonstrates the breadth of the auditory context and its implications and potential for music education at various levels, as well as when intersecting with imagery (from audiovisual consumption platforms to gestures in a choral context). It does so through practical and didactic proposals derived from the experience and research of educators who are committed to music education at university.

Diana Díaz GonzálezEditor of this issue.

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Expanding Conventional Music Literacy:

Soundscape, Improvisation, and ICT in Prospective Teacher Training

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PALABRAS CLAVE: EDUCACIÓN PRIMARIA | EDUCACIÓN MUSICAL | PAISAJE SONORO | IMPROVISACIÓN | TECNOLOGÍAS DE LA INFORMACIÓN Y LAS COMUNICACIONES (TIC).
KEYWORDS: PRIMARY EDUCATION | MUSIC EDUCATION; SOUNDSCAPE | IMPROVISATION | INFORMATION AND COMMUNICATION TECHNOLOGY (ICT).

RESUMEN

Hoy en día, la educación musical debe abogar por un enfoque interdisciplinar que supere la visión tradicional del fenómeno sonoro como un lenguaje técnico-instrumental asociado a la lectura de una partitura, y dé respuesta a cómo consumimos actualmente la música, las posibilidades didácticas del sonido en conexión con otros contenidos curriculares y los recursos actuales de experimentación sonora vinculados al medio digital. Este artículo parte del cambio de paradigma que supusieron los llamados métodos creativos de la década de 1970 y aborda su implementación en una asignatura del Grado de Maestro en Educación Primaria de la Universidad de Oviedo: *Música y su Aplicación Didáctica*. Comenzamos revisando la fundamentación teórica que sirvió para el desarrollo de la materia. A continuación, exploramos varios recursos que aplicamos en las prácticas de aula, tales como el paisaje sonoro, la improvisación o el uso de TIC interactivas de creación y visualización del sonido. La parte final analiza el uso de estas herramientas en un conjunto de trece unidades didácticas que el alumnado realizó como trabajo final de la asignatura durante el curso 2021-2022, con el fin de conocer la manera en la que los estudiantes abordan la experimentación sonora para la enseñanza de diferentes contenidos del currículo de Primaria, entre otras cuestiones, como estrategias propuestas por el alumnado para la atención a la diversidad o la selección de determinadas herramientas digitales en sus propuestas didáctico-musicales, teniendo en cuenta los ámbitos de la educación musical trabajados en sus unidades.

ABSTRACT

Today, music education should advocate for an interdisciplinary focus that goes beyond the traditional vision of the phenomenon of sound as a technical-instrumental language associated with reading a score and responds to how we currently consume music, the didactic possibilities of sound in connection with other curricular content, and current resources for audio experimentation linked to the digital environment. This article arises from the paradigm change resulting from the so-called creative methods of the 1970s and focuses its implementation on a module from the Master's Degree in Primary Education at the University of Oviedo: Music and Its Application in Teaching. We begin by reviewing the theoretical rationale for the subject's development. Then, we explore several resources that we apply in classroom practice, such as soundscape, improvisation, or the use of interactive ICT for creating and visualizing sound. The final section analyses the use of these tools in a set of 13 teaching units that students completed as the final project of the module in 2021-2022. The aim was to learn how students approach audio experimentation to teach varied content from the Primary curriculum, among other things such as strategies proposed by students to pay attention to diversity or select specific digital tools in their musical-didactic proposals, bearing in mind the areas of music education covered in their units.

Introduction: from product to sound process

Seeing the musical phenomenon as a product linked to the performance of a text-object (the score) has long since been displaced by understanding it as a process that influences and is influenced by our cultural and social habits. In musicology, the field of so-called performance studies tries to investigate the behaviours that music triggers in people. This paradigm shift is underlined by Alejandro L. Madrid when he states that

> While music studies [...] asks what music is and seeks to understand musical texts and musical performances in their own terms according to specific cultural and social contexts, a performance studies approach to music would ask what music does and allows people to do. (Madrid, 2009, para. 5)

Understanding music and sound as a discourse that impels us in different ways, Christopher Small (1998) states that music does not exist objectively unless we make it and proposes the verb musicking to underline this performative quality over and above traditional identification with the idea of a musical work.

Other concepts from urban and popular music studies – such as Philip Auslander's (2006) concept of *musical personae* – focus on how making music allows the performer to construct an identity on stage. Likewise, works framed in the field of Sound Studies, such as LaBelle (2018), are based on the premise of "what it is that sound does, how it behaves and performs, what it evokes, and the ways in which subjectivity and social formations are supported and agitated by the listening sense" (LaBelle, 2018, p. 1); this is to develop the idea of "sonic agency" – the possibility of representing oneself in the public sphere not through what is seen but through what is broadcasted or heard.

These and other studies have contributed to forging a more holistic view of sound, inverting the product-object / process-interpretation relationship. Extrapolating this approach to music education, the so-called creative methods or "awakening pedagogy" of the 1970s (Brian Dennis, Lili Friedemann, Jos Wuytack, John Paynter or especially Murray Schafer) promoted experimentation with new media and the development of students' creativity, moving away from the previous instrumental methods (Orff, Kodály) in which the composer monopolised the creative aspects through fixed pedagogical materials (Gainza, 2004). Practices such as free improvisation, the use of non-conventional writing, listening to works of concrete or electronic music linked to new technologies, and the concept of soundscape (in its duality of listening and creation) broadened the meanings attributed to music, mediated until then by the reading and writing of the Western notation system.

More recently, the approach to these resources by disciplines complementary to the pedagogical field has surpassed the initial interest from a creative point of view. Thus, developmental psychology research by Daniel Stern or Maya Gratier connects improvisation with the communicative models of early childhood, considering that the interplay of vocal and

gestural exchange in play between babies and their mothers is not based on imitation but on a series of improvised variations within the same expressive timing. This leads Michel Imberty to consider improvisation as an almost universal biological fact, as the "primary condition of intersubjective communication and musicality" (Imberty, 2014, p. 8). In the case of soundscape, some didactic proposals are based on reconstructing the background sounds of students' childhood – from environmental noises to melodies, songs, or musical styles – to learn more about their social habitat and favour their inclusion (Ayala & Castillo, 2008), while others promote sensitivity towards the environment by listening to sound effects of pollution, deforestation or melting ice (Tojeiro, 2020). It is not my intention to review all the literature generated by the incorporation of these resources into the music classroom but rather to point out the starting points that have served as a basis for our own teaching practice in prospective teacher training. In this sense, this article aims to demonstrate how some proposals have been implemented based on improvisation, soundscape, and interactive sound experimentation websites in a third-year module on the Bachelor's in Primary Education at the University of Oviedo: *Music and Its Didactic Application*.

This annual module, belonging to the Didactic and Disciplinary Training unit, aims to "offer students an interdisciplinary perspective on music and its usefulness as a didactic tool for tackling the different topics of the Primary curriculum"[1]. Considering that the students who attend do not belong to the Music Education specialisation and that their training is generic, our premise was to avoid as far as possible the use of standard musical notation or identifying musical skills with a technical-instrumental type of knowledge, to understand the point of view I mentioned at the beginning of this article: what music and sound produce in us and their capacity to describe reality or discover aspects of our personality. On another note, introducing prospective primary school teachers to the use of ICT and the potential of improvisation seems necessary given their later professional insertion since, according to Casanova and Serrano (2018), most of the regional curricula in Spain continue to favour merely theoretical musical learning, based on recognising the vocabulary of written solfège as opposed to developing creativity or applying it to the teaching of other curricular content.

This convinces us that the best way to make the most of the course content for the students of *Music and Its Didactic Application* is by starting from the broadest possible vision of making musical sound. In the first part of this article, I set out the theoretical foundations that served to develop this interdisciplinary approach. In the second part, I explain some devised classroom practices related to the three resources mentioned (soundscape, improvisation, and the use of interactive web applications). In the third part, I provide a comparative analysis of 13 didactic units carried out in groups by the students as the final module assignment, for which I propose quantitative-qualitative research following categories for analysis that I will describe later.

1 As stated in the module syllabus, available at: https://www.uniovi.es/-/grado-en-maestro-en-educacion-primaria-2014 (accessed 15th July 2022).

Theoretical foundations: towards an interdisciplinary music education

Both the syllabus of *Music and Its Didactic Application*[2] and several of its learning outcomes (LA) aim to achieve interdisciplinary knowledge that addresses music as a tool to cultivate interculturality, inclusion, or violence prevention – aspects that have a bearing on the development of identity, relationships between students, and self-knowledge – before mastering musical language itself. Likewise, they highlight the use of new technologies for the design and implementation of musical activities (LA8.3), as well as cinema, music videos and audio for reinforcing and acquiring musical content (LA8.1). In this section, I cite several studies that have served to develop a practical and critical approach to this syllabus. In line with Arostegui (2014), my approach emphasises students' previous experiences and social context to build knowledge and focuses on musical genres that align with their listening habits as opposed to the cultural hegemony of so-called classical music[3].

Hargreaves, Marshall and North (2003) point out that, until the 1980s, the norm for listening was an experimental psychological model based on psychometric and acoustic tests that measured individual characteristics (the ability to perceive rhythm, pitch, melody, and harmony). The authors' proposal is situated within the framework of social psychology, investigating people's experiences with music in real contexts. Two effects result from the globalisation of information in today's digital consumer world: on the one hand, the disappearance of the boundaries, traditionally drawn at school, between music considered "serious" and "popular"; and on the other hand, its use as an accompaniment to everyday tasks, creating moods or regulating excitement levels. In this sense, one of today's educational challenges is achieving a balance between musical learning at school – still dominated by traditional Western written models – and outside it – where there is often a kind of self-directed learning among students, "exchanging skills and knowledge with each other by watching, imitating and talking about music" (Hargreaves, Marshall & North, 2003, p. 157).

Another of the major issues in music education today, according to the aforementioned authors, revolves around the specification of its objectives: should skills be promoted only for the mastery of musical communication (listening, performance, composition), or can broader aims be pursued related to issues such as the formation and expression of identity, emotional intelligence, knowledge management or social relations? Figure 1 shows the possible areas of influence of an interdisciplinary education that addresses musical-artistic, personal, and socio-cultural aspects; the first approach corresponds to a specialisation model specific to the conservatory – traditionally transmitted in teaching – while the next two relate to the social role that music plays outside the institution

2 The course has four teachers, each responsible for a different group. Although we share an initial syllabus designed by the coordinating teacher, this article focuses on our experience with group B during the 2021–2022 academic year.

3 In the author's words: "In order to combat this cultural hegemony, the critical curriculum advocates for establishing an intercultural music education in which academic music, or any other music, loses its hierarchical character, also including other musical styles from traditionally invisible cultural groups to the academy, such as jazz, rock and pop, flamenco, etc." (Arostegui, 2014, p. 24).

and its advantages in improving quality of life. This proved to be particularly useful for introducing students to the improvisation practices that will be detailed later; the intrapersonal benefits of individual performance – expressiveness, emotion regulation, self-awareness – combine with more interpersonal benefits such as teamwork, communication, and cooperation.

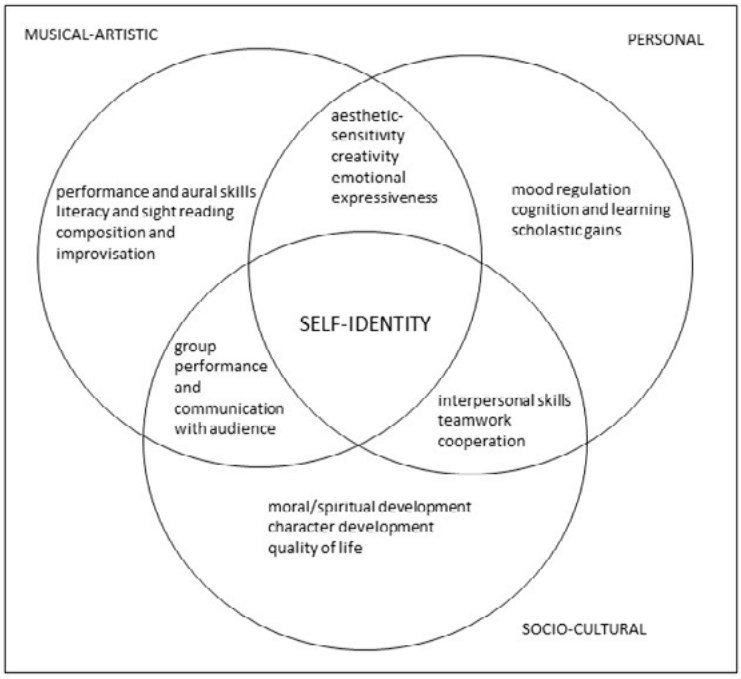


Figure 1. Interdisciplinary music education objectives (Hargreaves, Marshall & North, 2003, p. 160).

Paying attention to the musical genres most in demand among students over the primacy of the classical repertoire also makes it possible to move towards an intercultural type of education, another of the pillars of the course. For Bravo and Moya (2006), the transfer and interdependence of cultural practices have increased as a result of technological globalisation and the growing presence of migrant students in the classroom, to the point of considering that we are all somehow "cultural refugees". For the authors, a multicultural education necessarily starts with "the music they listen to regularly in their daily lives outside school" (Bravo & Moya, 2006, p. 134). Their proposed primary education teaching unit uses four styles – African music, jazz, black vocal music, and rock – each examined using resources such as film soundtracks, dramatisation exercises, dance or musicograms.

However, becoming aware of and accepting the diversity of world music does not mean developing intercultural competence. According to Bernabé (2012), we must progress from a multicultural focus on recognition of and respect for differences towards an intercultural perspective that delves into common socio-cultural legacies:

> Intercultural education always mentions the importance of difference, of exchange with 'the other', of the need to know the difference in order to respect it [...]; so much insistence on difference can lead to not recognizing the similarities and debts that some cultures have with others. (Bernabé, 2012, p. 37)

According to Bernabé (2012), teaching programmes in Spain that deal with non-classical music styles tend to pigeonhole them in the sphere of oral folk tradition without considering that other world regions also produce written concert music, not just popular music (p. 41). Thus, we fall into the fallacy of identifying non-Western cultures with more rudimentary repertoires as exotic, which encourages difference. To achieve an intercultural music classroom, Bernabé suggests improvisation as a tool that guarantees "respect for difference, exchange, fusion, and the enhancement of students' creativity and will contribute to communicating the emotions of the 'composer' (learner)" (2012, p. 46).
A third aspect that extends the traditional music education objectives is its use to raise awareness and prevent violence. Again, it is essential to begin with music that feels familiar to the students and to investigate through which media that is consumed and how it contributes to perpetuating specific patterns of social interaction. According to Llamas (2005), unlike the positivist approach inherited from the conservatories, an alternative is to use music to address problems that relate to students' life experiences. Thus, this transdisciplinary vision

> considers the social and cultural aspects of sound, beginning with the experiences and interests of the students [...] In this way, any musical style is completely valid (pop, rock, jazz, classical music, ethnic music, flamenco...) to deal with a wide range of social problems. (Llamas, 2005, p. 1)

Llamas brings the idea of educating "through" and not so much "for" the music, and tackles gender violence by connecting lyrical analysis of popular songs with the subject of Social Sciences.
A more recent work (Hormigos, 2020) is based on the premise that the meaning of contemporary music is highly influenced by the socialisation models transmitted by cultural industries: in a saturated model of consumption, adolescents tend to develop simple listening that favours the normalisation of the sexist content present in many songs projected by the media, mass platforms or social networks. Using a sample of 350 songs across nine different styles, he analysed whether their lyrics encourage gender violence (53.1%) or denounce it (22.6%). The most interesting aspect of his proposal is the relationship he establishes between the messages conveyed and the patterns of social behaviour that students learn in their daily lives. He selects their five most popular songs and establishes four objectives to work on in the classroom:

> To analyse the problem of gender-based violence; to help understand the sociological variables of the problem; to identify these variables in the music discourse surrounding the adolescent; and to use popular music to transmit positive values that help to combat the problem. (Hormigos, 2020, p. 100)

The research cited up to this point focuses on the social dimension of music and the meanings we give to it in our daily lives. These aspects are considered in the *Music and Its Didactic Application modul*e, aiming to help students to achieve the broadest vision of sound as a phenomenon – within the aforementioned critical approach to the curriculum (Arostegui, 2014) – and to integrate it as a transversal educational resource for working on curricular content or developing attitudinal competencies. Similarly, I have also selected a series of educational resources that connect the sound dimension with how we perceive reality and express our identity. These tools are framed within the disciplines of soundscape and improvisation, respectively.

Practical proposals and resources for sound experimentation

Soundscape

The most comprehensive explanation of the concept of soundscape, devised by Murray Schafer, was included in his book *The Tuning of the World* (1977), where he developed aspects such as the capacity of sound to bring back memories of a specific place, the sound effects of technological and industrial impact, the politicisation of silence, and the control of certain sounds as commercial brands. Schafer also proposed technical vocabulary for the analysis of the soundscape – such as keynote sounds, sound signals and soundmarks, hi-Fi and lo-Fi landscapes, presence and acoustic horizon, etc. – and various methods of graphic representation such as topographical sound maps, maps of events or maps of routes through a space. (These resources have now been replaced by geolocation systems that function as sound libraries, such as the *Mapa Sonororu* developed by the Universidad Laboral de Gijón[4].) However, the most interesting focus of Schafer's research for teacher training students is his pedagogical approach. His five didactic booklets – *The Composer in the Classroom* (1965), *Ear Cleaning* (1967), *The New Soundscape* (1969), *When Words Sing* (1970) and *The Rhinoceros in the Classroom* (1975) – focus on experiential learning that can be used to rethink the inherited meanings of traditional music teaching.

In *The Composer in the Classroom*, for example, Schafer and his students at Simon Fraser University deconstructed the very concept of music from the conventional idea of organised sound or sound pleasing to the ear to its formulation as "sound produced with the intention of being heard" (Schafer, 1965/1983, pp. 20–21). A few years later, in *The New Soundscape*, he recognised the limitations of this first definition and used John Cage's

4 Available at https://mapasonoru.com/mapa.php. Accessed 20th July 2022.

maxim – "Music is sounds, sounds heard around us whether we're in or out of concert halls" – to argue that a radical change in music education was needed:

> Today all sounds belong to a continuous field of possibilities lying within the comprehensive *dominion of music* [...]. There is a shattering corollary to this for all music educators [...] *And the whole nature of this theory and practice is now going to have to be completely reconsidered.* (Schafer, 1969, p. 2)

Some illustrations in this book serve to reflect on the relative meaning associated with music, noise, and silence considering the intentionality of listening – "noise is sound we have been trained to ignore" (Schafer, 1969, p. 11) – for example, listening to Beethoven's Eroica in a concert hall context (Figure 2). On the other hand, in *Ear Cleaning*, Schafer proposed exercises to rediscover sound parameters through experimentation: one of the recurrent exercises was to ask his students to find an "interesting" and a "contrasting" sound until each of them, divided into groups, had five different sounds with which to perform an instrumental improvisation (Schafer, 1967, pp. 40–41). In other cases, the improvisation started from abstract schemes that allowed them to combine the parameters in all possible ways (Figure 3).

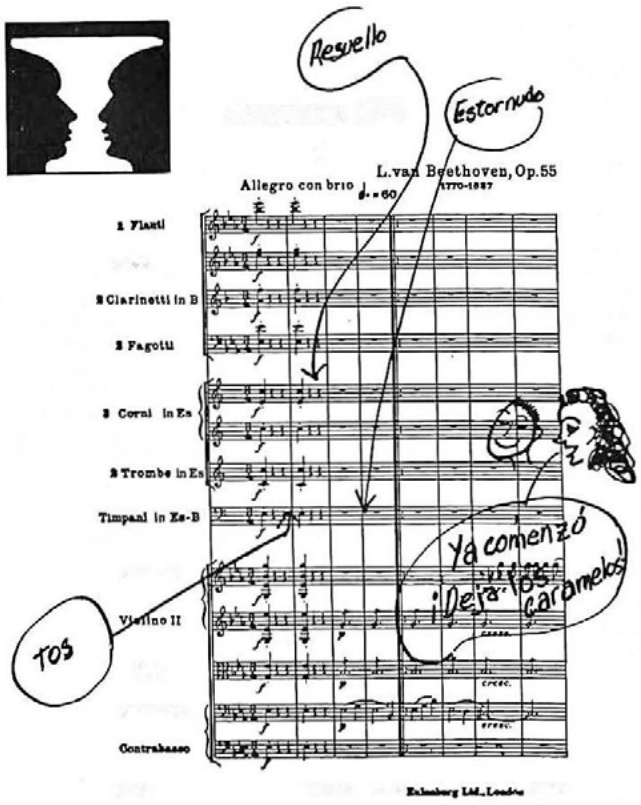
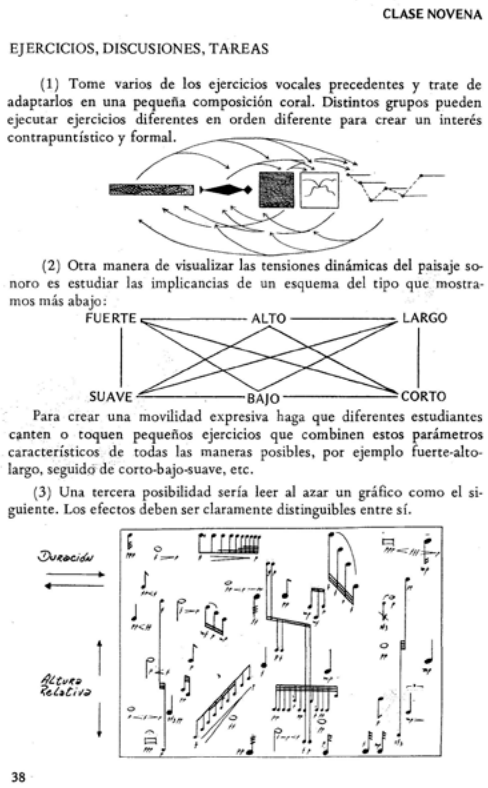


Figure 2. Illustration of the concepts of figure-ground and music-noise (Schafer, 1969, p. 11).



CLASE NOVENA

EJERCICIOS, DISCUSIONES, TAREAS

(1) Tome varios de los ejercicios vocales precedentes y trate de adaptarlos en una pequeña composición coral. Distintos grupos pueden ejecutar ejercicios diferentes en orden diferente para crear un interés contrapuntístico y formal.

(2) Otra manera de visualizar las tensiones dinámicas del paisaje sonoro es estudiar las implicancias de un esquema del tipo que mostramos más abajo:

Para crear una movilidad expresiva haga que diferentes estudiantes canten o toquen pequeños ejercicios que combinen estos parámetros característicos de todas las maneras posibles, por ejemplo fuerte-alto-largo, seguido de corto-bajo-suave, etc.

(3) Una tercera posibilidad sería leer al azar un gráfico como el siguiente. Los efectos deben ser claramente distinguibles entre sí.

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Figure 3. Some improvisation diagrams (Schafer, 1967, p. 26).

A listening and classification exercise we use in class is inspired by one of the tasks described in *The New Soundscape*. Schafer asked his students for five consecutive days to turn their chairs towards the wall, close their eyes and listen for ten minutes to the sounds they perceived, and then describe them as natural, mechanical, electrical, or human-produced (Schafer, 1969, p. 17). In our study, we listened to one of the tracks from Schafer's album *The Vancouver Soundscape* (1973), entitled "Vancouver Harbour Ambience"[5]. After explaining some terms that the author invented such as *signals* (intermittent sounds) and *marks* (characteristic sounds with which the population of a certain place identifies itself), we classified the type of landscape (natural, urban, technological), its temporal structure (continuous, discontinuous), its density, and the number of perceived layers[6]. This first exercise is followed by a debate on its didactic applicability. By these means, the aim is to understand the transversality of soundscape as a concept and evolve the content of not only the Art Education module but also other subjects such as *Social Sciences* or *Natural Sciences*.

Another practice we carried out is based on the idea of the "chronological sound frieze" developed by Ayala and Castillo (2008). From an eco-educational perspective, the au-

5 Available in MP3 format at https://www.sfu.ca/~truax/vanscape.html (accessed 20th July 2022).

6 This classification proposal is inspired by an article by Mexican sound artist Manuel Rocha Iturbide entitled "Estructura y percepción psicoacústica del paisaje sonoro electroacústico", available at http://revistas.unam.mx/index.php/pim/article/view/23847. Accessed 20th July 2022.

thors propose that each student create a PowerPoint presentation with their particular sound history using recordings or verbal descriptions that allow them to rescue sounds on the verge of extinction or help to reinforce their inclusion in the social climate of the classroom. In our classroom, we asked students to create a music video with personal photographs or images they like and accompany them with a sound background that inspires their experiences. However, most of them chose trendy songs, and some used soundscape creation applications such as TaoMix or recordings taken from their mobile phones to illustrate certain places familiar to them.

Improvisation: from instrumental performance to interactive ICT

Schafer, Paynter and other authors of creative methods have defended improvisation as the best tool to approach knowledge sound parameters from an empirical point of view. In practice, experimentation with pitch, duration, intensity, and timbre is often carried out through unconventional graphics: vocal glissandi lines, long and short strokes on the horizontal plane, symbolic shapes of different sizes and colours, or pictograms of everyday objects. These serve as alternative representations for improvising on each of these elements. In his collection, *Piezas gráficas para la educación musical*, Palacios (1993) points out the didactic advantages of using this type of open writing: they provide a stimulus for improvisation by allowing the performer a wide margin of creativity; in these scores, the "plasticity" of sound comes to the fore in comparison with the symbolic representation of traditional solfège; the simplicity of the graphic materials helps obtain immediate results without prior technical learning; finally, the new graphics help with understanding the essence of many contemporary repertoire works that we can incorporate into the primary music classroom.

From an educational perspective, Violeta Hemsy de Gainza (1983) understands improvisation as a playful and globalising activity – a musical game that

> begins long before the systematic learning of music and should not be interrupted throughout the whole process [...]. Pedagogy aspires to achieve graded chains in the area of improvisation and guided play which start from the most elementary forms and contribute to educating – that is, to develop and fulfil the individual. (Gainza, 1983, p. 47)

The didactic objectives she sets for improvisation are in line with the diagram of possible outcomes of interdisciplinary music education shown in Figure 1: for the author, improvising is a form of "unloading" (expression-catharsis) that allows the individual to express themselves on a physical, affective, mental and social level (the socio-cultural objectives of the diagram); it also works as a learning technique to acquire self-confidence and self-assurance (personal objectives) and to internalise the elements of musical language (musical-artistic objectives; Gainza, 1983, p. 25).

At a curricular level, improvisation is transversal content that appears throughout the entire primary education stage. Following Hemsy de Gainza, improvisation can be approached from two types of stimuli: musical (those related to sound parameters as raw material for work, namely: sound, rhythm, melody-harmony, form, genre, style) and extra-musical (impressions and descriptions of external phenomena, such as the imitation of natural sounds, or communication of feelings and moods; Gainza, 1983, p. 13). In our classroom, we developed exercises aimed at internalising and maintaining the pulse and creating specific rhythmic patterns regardless of pitch, considering that rhythmic expression is the first element of musicality, appearing at an early age (Pascual Mejía, 2006). It is directly related to activities that we carry out in our daily lives (walking, measuring and perceiving time, etc.) and, in the case of instrumental performance, it helps to work on coordination, synchronisation and periodicity of bodily gestures to progress from there to parameters such as intensity or duration (speed and energy of the movement in a given time).
I describe some of these exercises below, carried out in *Music and Its Didactic Application*:

- Pulse and rhythmic patterns: we choose a group of three students, each with a pair of claves. The first one plays crochets (with an approximate duration of one second), the second plays quavers, and the third plays semiquavers. When the teacher says "change", everyone must switch to another. The experiment continues by doing the same exercise with three different pupils, only now they decide for themselves when to change the pattern without saying anything; they must react to the first change they hear. This exercise encourages active listening and internalisation of the pulse, improvising on three rhythmic figures.
- Melodic improvisation with plate instruments: we place two rows of three or four xylophones facing each other. The teacher starts by playing an improvised sequence on a basic rhythm and keeping the same notes (e.g., C-D-E-G-E-D-C).

    - The students imitate the sequence of notes. The teacher then varies the basic rhythm while keeping the same time signature. The pupils do not have to repeat the notes they improvise; they can be other notes, but the rhythmic sequence must be the same. This exercise practises reacting to the rhythm and maintaining it regardless of pitch perception.

    - With the same two rows, one of the students creates a melody with the rhythm indicated below and the rest of the classmates in the same row imitate it in sequence. The students in the other row mark a minim beat with two repeated notes (e.g. C-G). On

the call of "double", everyone should change the beat by half: the accompanying students switch from minims to crochets.

- Improvised instrumental combo: two students with claves play a ternary beat – one plays crochets, and the other plays dotted minims (beat and accent). The student playing crochets may occasionally improvise quavers. Another student joins in with the congas with an improvised rhythm that fits within the time signature.

  - Another two students join in by improvising a melody with xylophones that fits the measure, imitating each other. Finally, a sixth student joins the combo, marking the accent with the triangle. Despite the simplicity of the exercise, the integration achieved within the group through the common element of the beat is high, to the point of producing a sensation of temporary suspension that is characteristic of group improvisation.

Improvisation can be worked on not only through Orff instruments. There is now interactive creation software that allows experimentation with pitch, rhythm and timbre in real time, or creation of compositions from pre-recorded tracks without struggling with written notation (these are the so-called DAWs (Digital Audio Workstations) – sound editing software such as Audacity, Cubase, Protools, AudioSculpt, etc.). The introduction of ICT in music education has meant a quantitative and qualitative change in terms of the teaching-learning paradigm, moving towards a constructivist model. According to Hernández and Martín (2014), with the use of ICT,

> The student is no longer the unidirectional receiver of the accumulation of information of yesteryear: they have taken a step forward when processing information and complementing it with that received from the teacher, who has also seen their role change from unidirectional transmitter to guide in the process. These constructivist approaches require planning and implementation, and the use of ICT facilitates their understanding and usability. (Hernández & Martín, 2014, p. 1)

The wide offer of learning, training, and music creation programmes on the market makes such prior planning necessary because, although we are all users nowadays, not

all of us are competent in the use of these new technologies (Cózar & Moya, 2013). Tejada (2014) classifies music education software into three types: tutor (or guide of the teaching-learning process), trainer (provides exercises and corrects them automatically) and instructional object (software programmed to perform specific tasks). He also distinguishes between "general purpose" programmes – designed to record, edit audio or write scores, but not to teach music – and "specific purpose" programmes – auditory trainers, and programmes designed for analysis or to present music theory content (2014, p. 198). *In Music and Its Didactic Application*, we demonstrate web resources aligned with this second group, such as teoría.com, aprendomúsica.com, and therhythmtrainer.com. However, the most used programme, and the one incorporated by the students in their didactic units, was Chrome MusicLab. This application interface is much more intuitive than those mentioned above as it is not based on the solfège graphic elements characteristic of theoretical training programmes. The resources contained in Chrome MusicLab are oriented towards manipulating objects and encouraging experimentation and creativity from a playful point of view. The programme is handy for introducing the more technical content taught in the module's later topics: rhythm, pitch, timbre, and definitions such as harmonic and inharmonic sound.

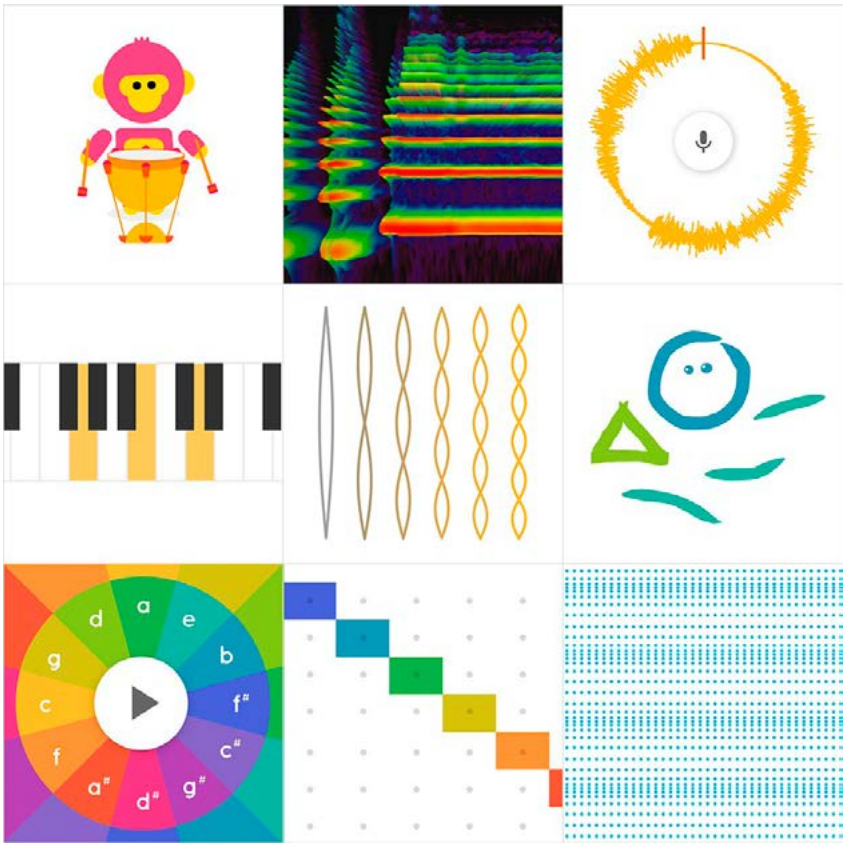

Figure 4. General interface of the Chrome MusicLab website.

Analytical methodology and results: application and students' proposals

In this article, I propose a quantitative-qualitative investigation of 13 didactic units delivered by university students, by analysing the following categories with their items: tools used and their application in specific activities (soundscape, improvisation, ICT, use of non-conventional graphics); subjects involved in the didactic approach, to evaluate the use of sound as an interdisciplinary resource across different course contents; types of music education activities (auditory discrimination, vocal expression, instrumental expression, corporal expression); and ideas of activities to integrate students with SEN (Special Educational Needs) through sound experimentation.

As for the results, it is worth paying attention first to the titles of these units, as several reflect a clear connection with soundscape or the method of chronological sound frieze developed by Ayala and Castillo (2008), while others focus on the relationship between music and emotional expression or explore the basic parameters of sound: *El Principito. Conciencia y valores (The Little Prince. Consciousness and Values,* 5th grade); *La rítmica y la expresión corporal (Rhythm and Body Expression,* 2nd grade); *Las cualidades del sonido (Sound Qualities,* 4th grade); *¡Música para nuestros oídos! (Music for Our Ears!,* 6th grade); *Música y movimiento (Music and Movement,* 5th grade); *La oreja de Vang Orff (Vang Orff's Ear,* 4th grade); *Pinceladas musicales, (Musical Brushstrokes,* 2nd grade); *Tu friso sonoro (Your Sound Frieze,* 2nd grade); *Tu vida en sonidos (Your Life in Sounds,* 3rd grade); *Sensaciones musicales (Musical Sensations,* 2nd grade); *Mi gran viaje musical (My Great Musical Journey,* 2nd grade); *Los sonidos de mi entorno (The Sounds of My Environment,* 5th grade); and *EmocionArte*[7] (2nd grade).

Tools and resources used

Soundscape	*El Principito* *Pinceladas musicales* *Tu friso sonoro* *Tu vida en sonidos* *Mi gran viaje musical* *Los sonidos de mi entorno* *EmocionArte*
Improvisation activities	*El Principito* *La rítmica y la expresión corporal* *Las cualidades del sonido* *¡Música para nuestros oídos!* *Música y movimiento* *La oreja de Vang Orff* *Sensaciones musicales* *Los sonidos de mi entorno* *EmocionArte*

7 Translator's note: This is a play on words combining the terms "Emotion" and "Art", which results in the translation "get moved".

ICT used	Kahoot (*La rítmica y la expresión corporal; Pinceladas musicales*) Audacity (*El Principito, ¡Música para nuestros oídos!*) Learning Music (*Beta*), ChordChord (*¡Música para nuestros oídos!*) Toy Theater (*Música y movimiento*) Chrome MusicLab (*La oreja de Vang Orff; Mi gran viaje musical*) IncrediBox (*Sensaciones musicales; EmocionArte*)
Unconventional symbols	*Música y movimiento* *La oreja de Vang Orff* *Tu friso sonoro* *Sensaciones musicales* *Los sonidos de mi entorno* *EmocionArte*

Table 1. List of resources incorporated in students' proposed activities.

As seen in Table 1, seven units (54%) use soundscape and nine (69%) use improvisation. In the case of soundscape, four units (31%) incorporate it in the duality of listening and creation. Thus, a recurrent activity is to show photographs of natural or urban environments and discuss what these places may sound like, stressing that we do not all hear the same sounds or attribute the same meaning to them. The complementary activity consists of a soundscape composition inspired by a school day, made with audio from the Internet edited with Audacity (*El Principito*) or recreated with instrumental, vocal or body sounds (*Tu friso sonoro*). This latter unit and *Los sonidos de mi entorno* connect sound experimentation with the use of unconventional symbols, in the form of pictograms of objects, beings, and actions – animals that can be found on a visit to the zoo (Figure 5) or the four natural elements (Figure 6). In both cases, the target students are free to choose the sound sources to complement the musicograms: Orff instruments, body percussion, onomatopoeia, noises produced with everyday objects, etc.

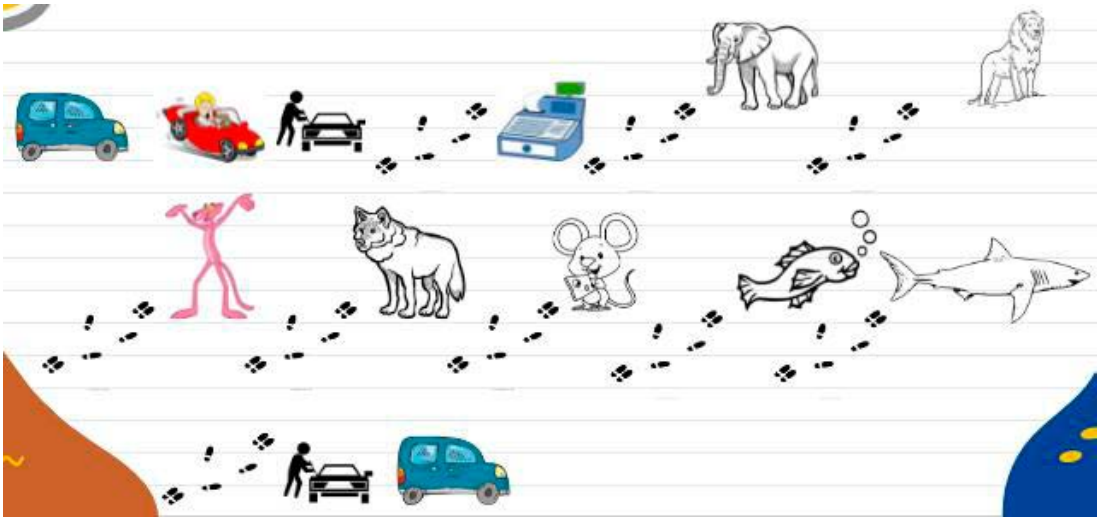

Figure 5. Musicogram of the unit *Tu friso sonoro*.

Figure 6. Musicogram of the unit *Los sonidos de mi entorno*.

Regarding improvisation, four units (31%) associate this practice with interactive ICT such as Toy Theater/Composer, Chrome MusicLab and IncrediBox. *La oreja de Vang Orff* uses Chrome's Rhythm and Melody Maker tools: while one student improvises a rhythmic-melodic sequence, the rest accompany it with Orff's body percussion diagrams. The same model of activity is used with IncrediBox: by playing with the application's avatars, the students improvise bodily sounds to accompany the beatbox rhythms. A more experimental use of Chrome MusicLab can be found in the *Mi gran viaje musical* unit, one of whose activities, "Let's measure waves", is based on the intention to develop senses other than hearing. Through the Spectrogram option, a first practice observes how waves move according to the chosen timbre. This is followed by an activity in which students draw the waves on the blackboard according to the sounds reproduced by their classmates with the application or with Orff instruments (Figure 7).

On the other hand, of the nine units that use ICT in the activities, only two (14%) use an application such as Kahoot to design activities to reinforce theoretical content, with no connection to practice.

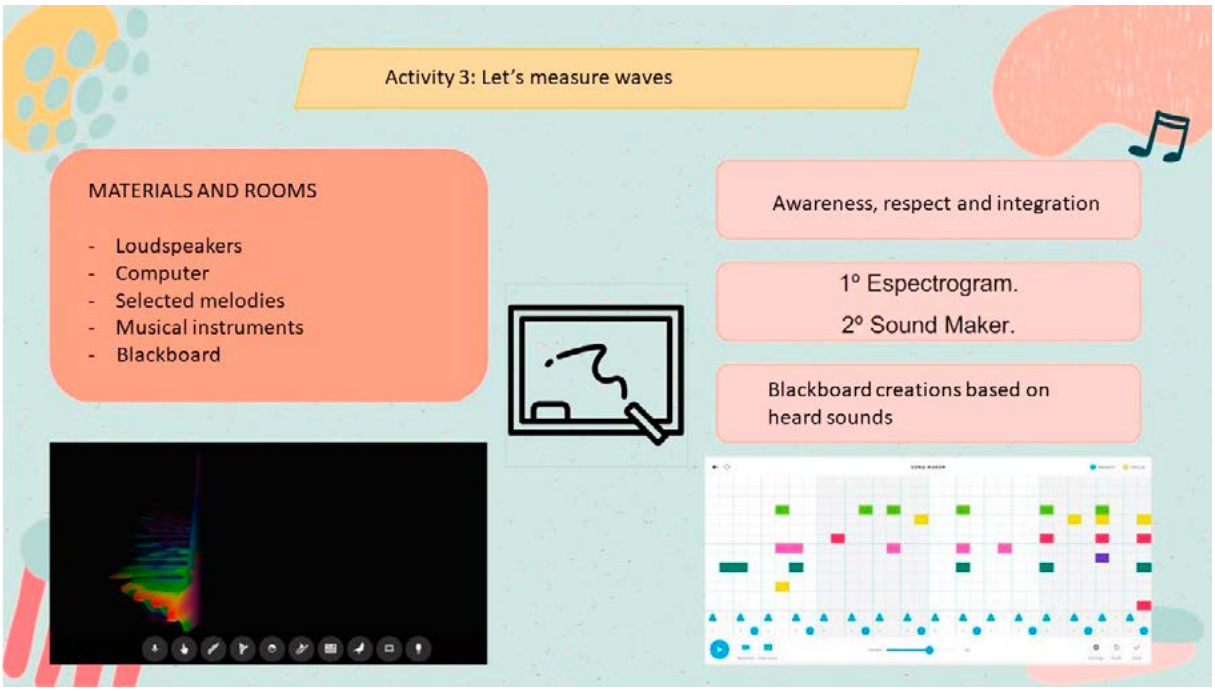

Figure 7. Chrome MusicLab activity of the unit *Mi gran viaje musical*.

Two other units are worth highlighting in terms of experimentation with noise or certain acoustic phenomena: *Pinceladas musicales* and *Los sonidos de mi entorno.* The first includes an activity ("Sounding cans") in which the students must put an object in a can; by shaking it, the others must discover what kind of object it contains or describe its qualities. A complementary activity uses these cans as a tool for measuring space: while some students make sounds with them, others, blindfolded, must go to meet them, guided by the timbre discrimination. In *Los sonidos de mi entorno*, the activity involves using auditory illusions such as the so-called *Shepard tones* to introduce the concept of the musical scale, asking the students to indicate when they perceive the ascending sound curve has begun.

Curricular areas involved in the proposals

Artistic education (music)	*La rítmica y la expresión corporal* *Pinceladas musicales* *Tu friso sonoro*
Other courses	*La oreja de Vang Orff* (Música y Plástica) *El Principito* (Música y Plástica, Lengua, Francés, Valores Sociales y Cívicos) *Las cualidades del sonido* (Música y Plástica, Ciencias de la Naturaleza) *Música para nuestros oídos* (Música, Lengua, Valores Sociales y Cívicos) *Música y movimiento* (Música y Plástica, Educación Física, Lengua, Ciencias Sociales) *Tu vida en sonidos* (Música y Plástica, Lengua, Educación Física) *Sensaciones musicales* (Música y Plástica, Lengua, Educación Física) *Mi gran viaje musical* (Música y Plástica) *Los sonidos de mi entorno* (Música y Plástica, Ciencias de la Naturaleza) *EmocionArte* (Música y Plástica, Educación Física, Ciencias Sociales)

Table 2. Areas and courses that integrate the students' didactic units.

Of the 13 units, 10 (77%) propose interdisciplinary activities between various courses of the Primary School syllabus, and the remaining three (23%) are programmed exclusively within Music. The most present area is Art Education; Music and Plastic Arts (69%) follows, then Spanish (38%), Physical Education (23%), and Social Sciences, Natural Sciences and Social and Civic Values (15%). It is worth highlighting the established interdisciplinary axes and the type of activities that link the courses through sound. How students approach the connection between sound expression and plastic art revolves around expressing emotions and feelings aroused by sound. Thus, four units (*La oreja de Vang Orff, Música y movimiento, Sensaciones musicales and EmocionArte*) include activities such as listening to songs or soundtracks and associating their possible meanings with a particular colour and emotion, as well as free drawing based on an Orff instrument improvisation.

The relationship with the Spanish course takes different forms. In *El Principito*, the reading of Antoine de Saint-Exupéry's story is accompanied by the recreation of each planet's soundscape, and the behaviours associated with each inhabitant (Social and Civic Values). In *Música y movimiento*, the students improvise a melody using Toy Theater and create two-verse lyrics to apply to it. In the units *Tu vida en sonidos* and S*ensaciones musicales*, the language content is tackled through the sound story, emphasising the students' freedom of experimentation. The proposed activity consists of creating a story in a group that includes sounds, onomatopoeia or noises; one of the members will read the story aloud and the other three will accompany it with any type of sound. All body parts are valid for generating sounds and a few instruments are provided for activity completion.

Other interdisciplinary connections are easy to deduce. For example, the relationship between Music and Physical Education is practised through corporal expression (Dalcroze, Orff, Patricia Stokoe, etc.) and soundscape links to courses such as Social Sciences or Natural Sciences.

Of the 13 units set, the one that achieved the most transversal profile was ¡*Música para nuestros oídos*!, which links sound and music levels with the areas of Spanish and Social and Civic Values. Inspired by Hormigos (2020), this unit aims to understand and analyse the most popular current songs through a theoretical, practical, and contextualised framework. The aim is for students to develop critical thinking towards the music they listen to in their daily lives in order to assess the behavioural models they transmit to the listener. Starting with a selection of the five most listened-to Spanish songs in 2021 on Spotify, they analyse the lyrics, rhythmic patterns and chords and then recreate the songs using Learning Music (Beta) and ChordChord. Finally, each group makes a podcast with Audacity where they present an analysis of the song with the following sections: musical introduction created using the applications; biographical data on the artist; analysis and description of the song's genre; rhythmical analysis; lyrical analysis; and reflection on the possible sexist and chauvinistic messages conveyed by the song.

Types of music education activities

Auditory discrimination	*El Principito* *Las cualidades del sonido* *¡Música para nuestros oídos!* *Música y movimiento* *Los sonidos de mi entorno* *La oreja de Vang Orff* *Pinceladas musicales* *Tu friso sonoro* *Tu vida en sonidos* *Sensaciones musicales* *Mi gran viaje musical* *EmocionArte*
Vocal expression	*Las cualidades del sonido* *Tu friso sonoro*
Instrumental expression	*El Principito* *Las cualidades del sonido* *Tu friso sonoro* *Los sonidos de mi entorno* *Tu vida en sonidos*
Bodily expression	*La rítmica y la expresión corporal* *Las cualidades del sonido* *Música y movimiento* *La oreja de Vang Orff* *Pinceladas musicales* *Tu friso sonoro* *EmocionArte* *Los sonidos de mi entorno*

Table 3. List of the didactic units according to the areas of music education covered by the activities.

Regarding the type of music education activities, practically all the units (92%) include auditory discrimination. This is combined with physical (61%), instrumental (38%) or vocal (15%) expression activities, without distinguishing between them. This suggests that our students conceive musical learning as a continuum between listening and producing sounds using all available resources (instruments, body, objects, etc.).

Disregarding classical methodologies such as Dalcroze, the relationship between auditory discrimination and corporal expression is well observed in the units *Música y movimiento* and *Los sonidos de mi entorno*. In the former, one of the activities consists of playing instruments in the classroom while some of the students, blindfolded, must find the previously assigned instrument. In the second, different animal sounds are played and the students, also blindfolded, move faster or slower depending on what the sounds transmit to them (agitation or calm).

Other units (*El Principito, Tu friso sonoro, Los sonidos de mi entorno*) use soundscape as a stimulus for instrumental expression, asking students to recreate the sensations aroused by reading the tale or looking at an image. Tu vida en sonidos includes an activity enti-

tled "Dubbing actors", in which sounds corresponding to an action must be added to a muted visual resource using Orff instruments. The activity supposedly verifies the relationships between what is seen and heard, on the basis that each student will establish this correspondence according to their experiences.

Música y movimiento, La oreja de Vang Orff, Sensaciones musicales y EmocionArte connect auditory discrimination with plastic art expression, a relationship already mentioned in the section dealing with the courses involved in the units. In this way, the reading-interpretation process of traditional teaching is inverted and, starting from active listening, we arrive at drawing-writing to get the students to trace what the sound conveys to them.

Ideas for activities to integrate the diversity of SEN students

Although 10 of the units (77%) include a specific section addressing diversity and include cases of ASD, ADHD, Down's syndrome, and deafness, only two of them (15%) were able to design sound experimentation activities to integrate cases of the latter. In *El Principito*, the introductory activity to the soundscape is a debate on how a series of landscapes shown in photographs (a beach, a forest, the school playground, etc.) would sound, focusing on the question of whether we all hear the same thing. According to the unit's authors, when talking about sounds, the teacher will always emphasise what they hear and how they feel during this process, as we do not all hear and feel sounds in the same way. The main objective is to allow students to develop a different perspective of music where nothing is right or wrong, merely subjective.

In *Mi gran viaje musical*, the senses of touch and sight are used to integrate hard-of-hearing students. Four related activities are as follows. In "Let's feel the music", the classroom loudspeakers are turned to face upwards and students are asked to touch the membrane and verbalise the type of vibrations it transmits. The second activity, "Let's observe the music", pursues the same objective but uses salt or chalk powder on a sheet of paper placed on top of the loudspeaker. In the third activity, "Let's transmit the music", the students stand in single file and each one transmits a rhythmic pattern on their partner's back. The last activity is the aforementioned "Let's measure the waves" where, using Chrome MusicLab, the aim is to develop senses other than hearing to perceive and understand sound.

Conclusions

Teaching soundscape and improvisation with non-specialist students of Music Education allows us to revise the traditional approach to music as technical knowledge linked to the ability to read a score correctly, for which prior talent or training is necessary. The presented resources help develop a broader meaning of making sound, conceiving it as an experiential activity in which we can all take part without needing specific knowledge. In this sense, an aspect that is common to all the units designed by the students of *Music and Its Didactic Application* is that none of them uses standard notation to teach theoretical con-

tent such as sound qualities or to design practical activities. In several cases, the emphasis is on improvisation based on visual stimuli or the use of ICT to playfully explore different types of sounds, regardless of whether they are considered musical. The students used software such as Chrome MusicLab, IncrediBox or Learning Music (Beta), which allowed them to improvise sound parameters in real time without having to go through written coding.

The combined analysis of the 13 teaching units shows that students were able to incorporate soundscape and improvisation resources, relating them to other areas of the curriculum and, occasionally, as a tool for the inclusion of hard-of-hearing SEN students. The units' interdisciplinary approach is reflected, among other examples, in the sociological analysis of the impact of commercial music on the acquisition of cultural or gender prejudices (*¡Música para nuestros oídos!*), the work on values education based on the understanding of a literary text and the sonorous expression of certain moral attitudes (*El Principito*), or the visualisation of a signal's acoustic fingerprint to explore other senses in sound perception (*Mi gran viaje musical*).

On the other hand, many activities incorporate listening to sound environments and recreating them through different instrumental, physical, or vocal sounds without distinguishing between the means of sound production and relying on alternative visual representations that imply a wide margin of freedom for experimentation. This reinforces the premise that each person listens differently to the surrounding environment and that this reality can be used in music education to foster an individualised approach to music. This is also observed in those units that connect listening with the expression of emotions and feelings or explore other mediums, such as new graphics or the visualisation of acoustic waves for a better understanding of sound.

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Guided Practices of Musical (Re) Creation in Higher Education. Sound as a Creative Element.

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KEYWORDS: MUSICAL EXPRESSION | MUSICAL CREATION | MUSIC EDUCATION | HIGHER EDUCATION

RESUMEN

Durante el curso 2021/2022, el alumnado de la Mención de Educación Musical del Grado en Educación Primaria que oferta la Universidad de Córdoba puso en práctica un proceso de transformación guiada de un material melódico preexistente que previamente había seleccionado en base a sus recorridos musicales. Este proceso de transformación se secuenció en tres niveles: "Forma y texto", "Ritmo" y "Armonía". El segundo de ellos, centrado en el aspecto rítmico, fue a su vez organizado en dos pasos: uno consistente en la exploración de las posibilidades sonoras de los instrumentos de pequeña percusión, del cuerpo, de la voz, así como de cualquier cotidiáfono que se considerase oportuno, y otro en la creación del acompañamiento rítmico propiamente dicho. Durante el tiempo dedicado a la manipulación del material sonoro se debía atender a aspectos tímbricos, de concertación, técnicos o relativos a la emisión del sonido, mientras que para el diseño se debían tener en cuenta también una serie de procedimientos compositivos sencillos, además de fijarse en cuestiones como la monotonía, la forma, el carácter o la técnica del instrumento. El último nivel tenía que ver con el diseño de un acompañamiento armónico para ser interpretado con instrumentos de placas. En esta ocasión se debía pensar en la técnica, la organización de los sonidos, el tipo de motivo rítmico y melódico, el ritmo armónico, la capacidad de establecer el carácter general, así como en su función en relación con el ritmo y la melodía.
Durante su desarrollo, el alumnado tuvo que cumplimentar una serie de cuestionarios individuales al objeto de conocer cómo articula ideas en torno a la percepción del sonido para detectar posibles carencias y establecer propuestas de mejora. El análisis de los datos obtenidos revela la necesidad de continuar implementando actividades que favorezcan el desarrollo y perfeccionamiento de su educación auditiva con el fin de capacitarlo para pensar en sonido.

ABSTRACT

During the 2021/2022 academic year, students majoring in Music Education on the Degree in Primary Education at the University of Córdoba undertook a guided transformation process for pre-existing melodic material that they had previously selected based on their musical journeys. This transformation process was sequenced into three levels: "Form and text", "Rhythm" and "Harmony". The second was organised into two steps: one explored the audio possibilities of small percussion instruments, the body, the voice, and any instruments made from everyday objects; the other consisted of creating rhythmical accompaniment. During the time dedicated to manipulating the audio material, they had to pay attention to timbre, agreement, technique and output of sound. For the design, they also had to consider a series of simple compositional procedures, as well as pay attention to issues such as instrumental monotony, form, character and technique. The final level was to do with designing a harmonic accompaniment to be interpreted on instruments with bars. On this occasion, considerations included technique, organisation of sounds, type of rhythmic and melodic motif, harmonic rhythm, capacity to establish general character, and function in relation to rhythm and melody. During their development, students had to complete a series of individual questionnaires with a view to understanding how they articulate ideas around the perception of sound to detect possible shortcomings and establish suggested improvements. Subsequent data analysis reveals the need to continue to implement activities that encourage the development and perfection of their auditory education in order to train them to think about sound.

Introduction

The optional module *Collective Musical Expression. Educational Intervention Methods* is worth 6 ECTS credits and is taught during the first term of the final year on the Degree in Primary Education, but it is compulsory for those majoring in Music Education in the Faculty of Educational Sciences and Psychology, University of Córdoba. During the 2021/2022 academic year, a guided process of musical (re)creation was launched in this subject. The purpose was for the students to develop a series of musical skills related to strengthening their professional profile as specialist music teachers. The use of composition approaches in primary classrooms will depend on future teachers' familiarity with this type of experience (Dogani, 2004; Ódena & Welch, 2012), hence the need to offer tools in higher education for developing skills required for practising the profession.

If the general purpose of compulsory education is to foster students' knowledge of the world around them and offer them the necessary tools to improve it, musical education cannot be oblivious to this. According to Aróstegui (2012), creative capacity is developed through composition, which trains people to be capable of intervening in and transforming the society in which they live critically and consciously, thus contributing to more egalitarian development with less concentration of power and control. For this reason, it is critical to redirect the "aesthetic" and "mechanistic" sense (technical-performative or reading-writing) that this discipline has traditionally enjoyed and transform the classroom into a space for practice (Elliot, 1997; Small, 1998). In this case, it is about turning it into a place for "musical (re)creation", identifying "composition" and "performance" as two sides of the same coin – an approach shared by many of the existing musical practices at present – and understanding "composition" as any type of action related to invention or creation, including improvisation and musical arrangement (Giráldez, 2007). The process of "musical (re)creation" that was implemented fits into this precise epistemological framework.

The proposed educational activities, although offering students a certain degree of autonomy in decision-making in order to activate their musical thinking (Aróstegui, 2012), were carried out in a scheduled manner. As established by Tafuri (2007), certain determinism is required to create. Manipulating materials and searching for different possibilities of sound organisation must be based on knowledge of a series of basic rules or procedures, even if then put into practice intuitively from the perception that something sounds "good", according to what one can understand as "pleasant" or "unpleasant" (Aróstegui, 2012). Even though, as Ódena (2014) establishes, there is a danger of the process becoming mechanical with this type of task – that is, solutions are sought regardless of their musicality – it is necessary to equip students with a series of conceptual tools and technical resources, especially if we take into account that there is a significant number of students who have neither musical training in (Berrón, 2021) nor experience of performance and/or compositional practices.

The starting point was the selection of pre-existing melodic material. This was totally borrowed from urban popular music because the students were able to draw from their own musical journeys (Green, 2002; Flores, 2008; Biamonte, 2010). As Lines states, "music brings to education a particular qualitative experience that combines the expression of sound of human origin with social and communicative relevance" (2009, p. 13). From there, a series of joint transformation processes followed. The main reason for the group format (Ódena, 2014; Ocaña, Montes & Reyes, 2020) is that it facilitates knowledge acquisition through discovery, exploration, dialogue and reflection. Let's not forget that the processes of collective composition allow a culture of conversation and transgression (Lapidaky, De Groot & Stagkos, 2012), promoting learning through interaction (Burnard, 2004; Miell, Littleton & Rojas-Drummond, 2008; Sawyer, 2008; Burnard, 2013; Sawyer, 2014; Ocaña-Fernandez & Reyes-Lopez, 2018; Ocaña-Fernandez, 2020). In addition, when cooperative work dynamics are fostered, social, emotional and intellectual maturity is developed thanks to the need for shared responsibilities.

The students' judgements, or their understanding of making music – their musical thinking – is what I am interested in assessing. As teachers, we must understand their perspective on musical ideas (Ódena, 2005). That is why the general aim was to learn the degree of development of students' sound awareness to detect possible weaknesses relating to their sound education and establish proposals for improvement. To achieve this, I established the following objectives:

- Learn what the students' previous musical ideas are when making decisions to select from the pre-existing melodic material.
- Understand what aspects of sound are considered when evaluating the end results after completing the "Rhythm" and "Harmony" levels of the collective transformation process phase with the selected pre-existing melodic material.
- Establish the relationship between students' training and/or experience in interpretive practices and/or composition and how they articulate judgements about sound.

Methodological strategies

The research was designed qualitatively because some authors believe it is the most appropriate way to delve into the reality of education (Maykut & Morehouse, 1999; Sadín, 2003). I deemed case studies (Stake, 1998; Flick, 2004; Simons, 2011) to be the appropriate method of achieving the proposed objectives, given that I am interested in how the respondents think about sound, and because I have no intention of generalising the results.

When planning and developing the pedagogical activities, the guided collaborative processes for musical (re)creation were organised into three phases: first, students had to select pre-existing melodic material from their own musical journeys, following a series of instructions provided by the teacher; second, they had to carry out a series of formal,

rhythmic and harmonic transformation processes; finally, they had to arrange and record the repertoire (García, 2022), hosting it on a YouTube channel created ad hoc. Likewise, after completing each of the three phases, the groups uploaded the audio files and the resulting parts to a folder stored online.

Phase	Process	Date
Phase 1	**Starting point. Search for pre-existing melodic material and justification of its relevance.**	Until 20/09/2021
	Organisation in groups of 3 or 4 people.	24/09/2021
	Individual selection of three melodies from among the proposals by colleagues and justification of their relevance.	Until 04/10/2021
	Collective review of the appropriateness of the selected melodic material based on the teacher's instructions.	4/10/2021
Phase 2	**Collective transformation processes.**	Until 16/11/2021
	Level 1. Form and text.	Until 16/10/2021
	- Design of materials.	
	Level 2. Rhythm.	Until 01/11/2021
	- Exploration of sound possibilities and analysis. - Design of materials.	
	Level 3. Harmony.	Until 16/11/2021
	- Design of materials.	
Phase 3	**Arrangement and recording.**	Hasta el 20/12/2021
	Explanation and distribution of materials.	18/11/2021
	Individual study.	25/11/2021
	Joint rehearsals.	4 sessions
	1st recording session.	16/12/2021
	2nd recording session.	20/12/2021

Table 1. Sequencing and timing of the three phases of pedagogical activities.

When selecting pre-existing melodic material, a series of guidelines provided by the teacher had to be followed: materials should be pleasant, interesting and easy for primary students to learn. In addition, they should have vocal meaning (neither very fast nor very slow sounds), the movement of the melody should be undulatory (lacking sudden changes in pitch articulation), linear interval movements should be prevalent, primarily natural sounds should be used, and the materials had to be adaptable to children's vocal ranges[1]. Lastly, to facilitate their accompaniment on instruments with bars, care should also be taken to ensure that the key had few accidentals (C Major, D Major, F Major and their relative minors) or that, if not, it could be transposed to one of these keys without affecting the pitch to which it had to adapt. In any case, if the selected melodic material did not meet any of these guidelines, the students could make as many modifications as they considered appropriate.

1 According to the Franco-Belgian acoustic index, primary students' vocal range is approximately a 9th and ranges from C3 (in some cases from A2) to D4 (in some cases to F4).

Once the melodic material had been decided, the second phase of educational activities began, consisting of implementing a process of collective transformation that would be articulated in three different levels: "Form and text", "Rhythm" and "Harmony". In the first, students had to think about the structure, ensuring that it had, as a minimum: an introduction presenting the key, tempo and beat; two verses and two interspersed repetitions of the refrain; and a coda to help reinforce the feeling of ending. In addition, the introduction and coda should be connected with the pre-existing melodic material through the use of one of the more meaningful motifs from the verse or refrain in order to maintain the general character and formal consistency. The text had to be original and the theme had to generate interest, convey positive values, not use language that was too simple or excessively metaphorical, be organised in verses that rhymed, and not be hard to memorise.

The next level consisted of designing a rhythmic accompaniment. The students had previously explored the sound capabilities of various small percussion instruments, the body and the voice, as well as of any everyday objects that might be considered interesting. During the process, they had to consider the following aspects: the evolution of the intensity of sound over time (attack, sustained sound and decline); whether the timbre created interest, was pleasant and was full; whether the agreement allowed a melodic and harmonic balance of sound; and finally technically whether they were able to reproduce the required rhythm. From there, and bearing in mind a series of basic concepts ("motor rhythm", "rhythmic ostinato", "polyrhythm" and "timbral discrimination"), they had to design a rhythmic accompaniment that would contribute variety and interest to the selected melodic material, help to reinforce the formal aspects (cadential significance and differentiation of the parts), establish the general character, and not be difficult to learn.

The last level was dedicated to the creation of a harmonic accompaniment to be played on instruments with bars (chimes, xylophones and metallophones). In addition to not being difficult to memorise, being compatible with the instruments' sound and technical capabilities, and primarily using triads in root position, other proposed guidelines included that the harmonic accompaniment should have a simple rhythmic design that does not exceed two beats, be devoid of melodic meaning, have a consistent harmonic rhythm, help to establish the general character, and support the melody.

During the 2021/2022 academic year, 23 students were enrolled in the module *Collective Musical Expression. Educational Intervention Methods.* 60 hours of face-to-face teaching were delivered between September and December – four hours per week, divided into two 90-minute large-group sessions and one 60-minute medium-group session. Of those enrolled, 20 also studied the rest of the subjects necessary to major in Music Education (87%). Although the group was homogeneous in terms of age (91.3% of the students were between 21 and 23 years old) and gender (56.5% were women and 43.5% were men), there was significant variance in terms of prior musical studies – a constant in recent years (García & García, 2021).

Previous musical training	Nº. of students	%
The only musical studies I have completed were music classes in primary and secondary school.	8	34,8
I have not studied at music schools or conservatories, but I have self-taught musical knowledge.	3	13,1
I have studied at music schools or conservatories for fewer years than an Elementary Degree in Music.	1	4,3
I have studied at music schools or conservatories equivalent to an Elementary Degree in Music.	2	8,7
I have studied at music schools or conservatories equivalent to a Professional Degree in Music.	8	34,8
I have studied at music schools or conservatories equivalent to a Higher Degree in Music.	1	4,3

Table 2. Previous musical training of students enrolled in the module *Collective Musical Expression. Educational Intervention Methods* during the 2021/2022 academic year.

Just over half of the students stated that they knew how to read sheet music fluently and had knowledge of music theory. Approximately a third said they could do it with difficulty and only had a grasp of some basic concepts, and the rest claimed to have had no training in this regard. Approximately 40% of the class declared having mastered singing technique or that of an instrument, another 40% admitted having only basic skills and the rest admitted not having any. Regarding their experience of performance activities, half mentioned being or having been part of a vocal and/or instrumental group ('rociero' choir, orchestra, chamber group, music band, choir, carnival ensemble, rock group or jazz group) while the other half claimed to have no experience of this. Finally, regarding participation in music creation practices, only a quarter mentioned having some experience (harmony exercises for the conservatory, composition of songs for rock bands, composition of processional marches or song arrangements).

I used the following methods for data collection:

- Individual questionnaires. At the beginning of the course, I shared a questionnaire with the students to collect information related to their training and knowledge of musical instruments, mastery of the technique to play an instrument and experience of performance and/or compositional practices[2]. After completing the last two levels of the collective transformation process ("Rhythm" and "Harmony"), they were asked to complete two additional questionnaires, one for each level, with the following open-ended questions: "What would you highlight as most interesting? What did you enjoy the most? What do you think could be improved? Take into consideration the guidelines that the teacher had previously established."

2 Someone is understood to have musical training if they have studied at least the equivalent of an Elementary Degree in Music; and someone is understood to have experience of performance and/or compositional practices if they have been part of an instrumental and/or choral group and have at some point in their life created music for some sort of ensemble.

- Documents. Once the pre-existing melodic material had been selected (Phase 1), each student had to write a text justifying its relevance. For this, they had to keep in mind the proposed guidelines. All audio and text files were hosted in the cloud so that other students could consult them. After that, they wrote another text justifying the three pre-existing melodic materials that were the best fit with the teacher's guidelines.

To analyse the data, I started from the guidelines proposed by the teacher, both for the selection of pre-existing melodic material (Phase 1) and for the creation of the rhythmic and harmonic accompaniment carried out during the collective transformation process (Phase 2). An open category system was designed (Table 3) because both the questionnaires and the supporting documents allowed for new categories to emerge inductively from the respondents' statements in such a way that the initial proposal could be modified or completed to prevent the system from becoming mechanical (Simons, 2011).

Phase/Level	Block	Category
Selection of melodic material	Vocal meaning	Figures
		Movement
		Articulation
		Intervals
	Tessitura	Alterations
		Range
		Key
Rhythm	Exploration	Output
		Timbral aspects
		Coordination aspects
		Technical aspects
	Basic concepts	Motor rhythm
		Ostinato
		Polyrhythm
		Timbral discrimination
	Design	Monotony
		Form
		Character
		Technique
Harmony	Design	Technique
		Organisation
		Rhythmic/melodic design
		Harmonic rhythm
		Character
		Function

Table 3. Categories elaborated from the teacher's guidelines.

Results

Analysing the two documents written by the students after they selected the pre-existing melodic material (Phase 1) shows the following: of the 23 students enrolled in the module, 20 completed the document justifying their choice (86.96%) and 16 completed the one about the three proposals from among those suggested by other students (69.16%). There were seven categories (taken from the guidelines proposed by the teacher) organised into two blocks to describe the sound aspect: "Vocal meaning" ("Figures", "Movement", "Articulation", "Intervals", "Alterations") and "Tessitura" ("Range" and "Key"). Of all the people who delivered at least one of the two documents (86.96%), four did not comment on the categories (20%). Of the rest, eight did not comment on the "Vocal meaning" (40%) and nine on the "Register" (45%). Of those who did (80%), none used four or more categories to defend their justification and only four used two or three categories (20%). Seven supported one category and one wrote very generally (40%). Although a few delved into the content, none included information that would allow the inclusion of new categories or the modification of existing ones.

Analysing the responses to the individual questionnaires after completion of the "Rhythm" level of Phase 2 shows the following results: Of all the students enrolled, 11 completed the form (47.83%), nine of whom made some comment regarding the musical aspect of the rhythmic design (81.82%). For this, there were 12 categories divided into three blocks: "Exploration" ("Output", "Timbral aspects", "Coordination aspects" and "Technical aspects"), "Basic concepts" ("Motor rhythm", "Ostinato", "Polyrhythm" and "Timbral discrimination") and "Design" ("Monotony", "Form", "Character" and "Technique"). From the first block (the nine people), none used three or more categories, two made use of two, five used one and two wrote in a general way. As for the second block, no-one used three or more categories, one used two (9.09%) and two used one (18.18%). As in the previous block, two people wrote in a general way (18.18%). Regarding the last block, five used three or four (45.45%), two used one or two (18.18%), one wrote generally (9.09%) and another did not comment (9.09%). As before, although a few delved into the content, no-one provided information that would allow the inclusion of new categories or the modification of those already established.

Ten students (43.48%) completed the individual questionnaires after finishing the "Harmony" level of Phase 2. There were six categories for answering the questions: "Technique", "Organisation", "Rhythmic and melodic design", "Harmonic rhythm", "Character" and "Function". Of the 10 people, three used four or more categories (30%), six used one or two (60%) and one wrote in a general way (10%). This time no-one delved into the content, so they could not generate new categories or adapt existing ones.

Finally, of the 23 students enrolled, 12 stated that they had training in and/or experience of performance and/or compositional practices (52.15%). If we look at the relationship between students' training and/or previous experience and how they think about sound, seven of the 16 people who commented on the sound aspect of the selected pre-existing

melodic material had no training and/or previous experience (43.75%). If we look at the two blocks of categories ("Vocal meaning" and "Voice register"), five of the 12 that commented on some aspect related to the former had neither knowledge nor training (41.67%), and of the 11 that responded regarding the latter, three had neither knowledge nor training (27.27%). All the people who delved into some of the aspects of sound to justify the selection of pre-existing melodic material had prior training and/or experience (44.44%). As before, all the people who delved into the sound aspect after the rhythmic design also had training and/or previous experience. Lastly, of the 10 people who filled out the form after the harmonic design, six had neither training nor experience (60%). On this occasion, no-one delved into the sound aspect.

Discussion

The guided practice of musical (re)creation that the students worked through was divided into three levels of collective transformation ("Form and text", "Rhythm" and "Harmony") to provide evidence that could be assessed individually through the completion of a questionnaire in accordance with a series of guidelines previously established by the teacher. The groups presented the end results to their classmates after completing each of the activities of the collective transformation process. It was the creation of these spaces that led the students to rate the results very favourably:

> "For me, the most interesting thing about the product was exactly that. Hearing how the final audio sounded was very rewarding."

> "The most interesting thing about this work was how we went about creating it in layers, obtaining an amazing result."

> "I find it interesting how apparently simple rhythms can contribute so much to the melody working together."

The freedom enjoyed during the selection of pre-existing melodic material (Phase 1) is also striking. As already mentioned, the students borrowed everything from popular urban music. It makes sense, since everyone passively consumes this type of music and, in some cases, even protagonises it as performers in various practices. This shows the deep degree of inculturation that has largely been developed thanks to the mass media, especially the consumption of music streamed from online multimedia services that can easily be managed with a smartphone. This repertoire is part of their "customs", their "sociocultural practices" and their idea of "traditional music" (Shuker, 2001).

In the same way, analysing the individual questionnaires revealed to us other aspects of the educational activities that the students wanted to highlight as very positive: the degree

of involvement of each of the members of the group throughout the process (Burnard, 2013; Wiggins & Espeland, 2012; Beineke, 2017); the good atmosphere that was generated among colleagues when presenting the end results; the satisfaction of being able to rehearse what they had created with the whole class; and, finally, how much fun they had with the implementation, resulting in a highly rewarding musical experience (Rusinek, 2005; García & García, 2021).

On the other hand, if we focus on assessing students' musical ideas when selecting the melodic material (Phase 1), there was a generalised trend towards the use of aesthetic arguments, such as "pretty", "pleasant", "popular", "lively" or "sweet", or methodological ones, such as "easy to memorise", "catchy", "motivating" or "generating curiosity and interest". Most did not include comments on the musical features or, if they did, they only made use of one of the categories that had been proposed, literally reproducing the ideas expressed in the document. Only a few went into more depth with their arguments:

> "Although it may seem that there is a great difference in height between the verse and the refrain, with the verse perhaps being low for them, they will sing it an octave above, leaving that bass in the background, in order to achieve a sense of fullness."

> "The mixture of both is very interesting to me, as they have the same or a very similar rhythm and they share a key – G Major. However, a modulating mix can also be done, with the first melody in F sharp then rising a semitone in the chorus to place the second melody in G Major."

I have been able to draw similar questions from analysing the individual questionnaires completed after the "Rhythm" and "Harmony" levels of the collective transformation process of the pre-existing melodic material (Phase 2), with the exception that on this occasion more than half of the class just did not respond. As in Phase 1, only a few supported their arguments in more than one category and most literally re-presented the concepts that appeared in the documents that were provided to them with the guidelines. Very few delved into some aspect related to sound after completing the rhythmic design:

> "I found it interesting to try the instruments to see if they worked with the melody because I usually work mentally instead of improvising with the instruments themselves. This method contributes more richness and colleagues can make more contributions."

> "They mix well with each other and manage to evoke oriental music a bit thanks to the bedbugs."

> "The superimposition of the different ostinatos works and the generating rhythmic pattern provides information about the tempo, the beat and the ternary subdivision. In fact, what we were

looking for with rhythm was precisely this aspect, which marked that subdivision allowing the piece to walk."

"There is discrimination of timbres because each instrument, although coinciding in softness, has different timbres in terms of dryness and height of sound."

There is a direct relationship between training and/or previous musical experience and how students think about sound. This is because all the people who showed some degree of development of sound awareness had stated in the initial questionnaire that they had studied music and/or had significant experience of performance and/or compositional practices. According to Aróstegui (2012), in both performance activities and creation ones, each person's prior musical experience determines their ability to think about sound, which conditions the complexity or simplicity of the end result; musical knowledge has a decisive influence on their ability to substantiate what they have previously experienced. However, it is not a *sine qua non*, because in this case a significant number of people who had acknowledged having training and/or previous experience either literally reproduced the categories proposed by the teacher or simply did not complete the questionnaires.

In any case, this study has revealed student deficiencies regarding the degree of development of sound awareness. In fact, that's how they manifested during the whole process:

"The knowledge that we all have when carrying out said activity could be improved since most of us have barely studied music, but this makes us show up with enthusiasm, eager to learn about it."

In this sense, the questionnaire that they completed on the first day of class reflects that half of the students had not previously had contact with this discipline beyond what was studied in regulated education and the compulsory 1st-year subject on the Degree in Primary Education. I must add that the new syllabus has condensed all the content into the first term of the final year (4th), in addition to significantly reducing the number of credits earmarked for training compared to the previous plan (Berrón, 2021), which makes it difficult to integrate the necessary skills to practise the profession. This also justifies the fact that most of the students focused more on explaining what could be done with the end results of the transformation process of the melodic material than on describing the characteristics of its sound organisation: "could be played with different instruments", "the body could be used as an instrument", "it would be useful for inventing lyrics", "simple rhythms could be incorporated" or "it could be actively participated in", are just some of the examples.

Conclusions

During the first term of the 2021/2022 academic year, a series of guided musical (re)creation processes were carried out with students enrolled in the module *Collective Music Expression. Educational Intervention Methods*, which is compulsory for those majoring in Music Education on the Degree in Primary Education at the Faculty of Educational Sciences and Psychology, University of Córdoba. The starting point was a free search for pre-existing melodic material based on a series of guidelines previously established by the teacher. From then on, a series of collective and guided transformations were spread over three levels: "Form and text", "Rhythm" and "Harmony".

Throughout the educational activities, students had to justify the relevance of what was selected, arranged or created to reveal the degree of development of their sound awareness. However, as the process progressed, more and more students stopped completing the questionnaires. In addition, most of those who did limited themselves to mechanically reproducing the words proposed in the documents with the guidelines that the teacher had previously explained in class. My data analysis shows that the absence of training and/or previous musical experience was a decisive factor in this. Perhaps the issue could be alleviated somewhat if extracurricular activities around vocal and/or instrumental expression were offered for elective credits between the first year, when the module *Primary Music Education* is compulsory for all students enrolled in the Degree in Primary Education, and the last year, when majoring in Music Education.

This study also shows that a lack of musical knowledge or experience is not the only possible cause because more than half of those who admitted not lacking said knowledge or experience behaved in the same way. Nevertheless, the reason for this is unknown; it could be due to having learned by rote while studying at music conservatories, or due to the time it takes to write well-founded arguments, to mention just a couple of possible reasons. The data collection methods I used did not enable me to find the answer to this question, so future research should assess the use of other methods, such as semi-structured or unstructured interviews, or discussion groups, among other options.

In any case, this is an initial exploratory approach to the characteristics of future primary music teachers' sound education and it has enabled us to confirm the need to strengthen both the implementation of sound manipulation processes for different materials and the development of auditory education. It is about providing students with the tools, resources and necessary experiences to improve their ability to think about sound, thereby preventing guided processes of musical (re)creation from becoming mechanical.

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Intersections: Sound and Image for an Inclusive Educational Setting

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RESUMEN

El propósito de este artículo es ofrecer un panorama acotado sobre la posible proyección de las escuchas musicales en la formación de las identidades juveniles, a partir de una aproximación analítica a un repertorio delimitado de videoclips que adolescentes y jóvenes tienen como preferencias para su ocio y disfrute personal. Teniendo en cuenta las correspondencias entre texto-sonido y la intersección de estos con la imagen se plantea su posible incidencia en la configuración y convivencia de las diversas identidades juveniles en momentos de sociabilidad y se proponen posibles elementos de discusión para un escenario educativo inclusivo. La realización de este trabajo parte de las referencias, aportaciones conceptuales y metodológicas para el estudio de los videoclips que formulan Sedeño-Valdellós (2012, 2020) Guarinos y Valdellós (2020) Sedeño-Valdellós y Schubert (2020), Viñuela (2013, 2015), Goodwing (1992), entre otros autores. Se toman como base de datos las plataformas de YouTube y Spotify, así como una serie de encuestas realizadas por la autora de este artículo a jóvenes profesores y profesoras en formación.

ABSTRACT

This article aims to offer a panorama constrained by the possible projection of music listening in the formation of youth identities, through an analytical approximation of a defined repertoire of music videos preferred by adolescents and young people for their personal enjoyment and pleasure. Bearing in mind the correlations between text-sound and their intersection with image, I consider their possible impact on the configuration and coexistence of diverse youth identities in social moments and propose elements for discussion for an inclusive educational setting. This work draws on the references and methodological and conceptual contributions for studying music videos by Sedeño-Valdellós (2012, 2020), Guarinos and Valdellós (2020), Sedeño-Valdellós and Schubert (2020), Viñuela (2013, 2015), and Goodwin (1992), among others. I use YouTube and Spotify as databases, as well as a series of surveys I conducted with young trainee teachers.

Introduction: a study of listening and the configuration of identities

In this article, I understand the music video as a format in which images intersect in movement, texts and music. This, in turn, intersects with the emotions and experiences of adolescents and young people, fostering – or not – the construction of youth identities that reflect a resounding indifference towards different types of violence. Previous publications (Barroso, 2011; 2017; 2018) have suggested choosing music listening exercises associated with the configuration of identities oriented particularly towards the knowledge and self-knowledge of future educators. According to the study guidelines derived from SWB[1] (Morinville et al., 2013) and MLMQ[2] (Kuntsche et al., 2015), listening to music is one of the most pleasant and motivating activities for teenagers, youth and adults; "mood" and "motivation" are stronger in young people and adults, and fun takes precedence in adolescence (Barroso, 2017). In these works, one aspect remained unassessed – the image that is almost always associated with this listening: music videos. Most of the people surveyed – young university students – listen to music on mobile phones, tablets or computers, usually through platforms such as Spotify or YouTube, and that's why I considered it necessary to address this.

To carry out this work, I reviewed the lists of hit songs from the last three years on YouTube and Spotify, although I took 2021 as a basis for comparison. I also used the dataset from surveys I conducted in 2020–2021 on young university students' musical preferences to establish some parallels regarding the varied musical offering and their listening decisions. Even though Spotify is not a music video platform, I included it to complete the information of the listening because it is another great way of accessing songs.

Identities and intersections: music videos

The idea of reflecting on and linking identity and intersection comes from the etymology of the words and the semanticity they hold. These words can be combined, with their different meanings, to become a changeable part of concepts with which we can try to understand the social behaviour of teenagers and young people. If intersection relates to its first definition by Oxford Languages ("a place where two or more roads, lines, etc. meet or cross each other") or its second (a "crossing or meeting that occurs between these two lines, surfaces or solids: point of intersection")[3], this can be transferred to the concept of music videos, conceiving them as a space where text, music and image fuse. At the same time, the video-listening of the song that intertwines with the feelings, thoughts, sensations and actions of the people who identify with it would produce another connection, thus generating a double intersection. Both would give rise to interesting answers (exclusive or inclusive), to say the least, as stated several decades ago by Goodwin (1992), highlighting the close relationship

1 SWB: *Subjective Well-Being.*

2 MLMQ: *Motives for Listening to Music Questionnaire.*

3 Oxford Languages, available in: https://languages.oup.com/google-dictionary-es/. Retrieved July 20th of 2022.

between the visual and the music on an emotional level, and between the visual, the music and the text by way of amplifying the content.

This proposal has three concepts: music videos, intersection and identity. Viñuela (2013) points out that music videos "developed as a way to promote popular urban music, with the intention of reaching a large number of viewers (potential buyers) without the artist needing to be present on a stage or television set" (p. 168). Pérez Rufí et al. (2014) refer to music videos as an audiovisual format in constant change, linked directly to cinematography, adding its own evolution of the context in which it develops, "integrated with the cultural industries and sensitive to their circumstances" (p. 37). The music video is "a short-form audiovisual format in which the visual component is subordinate to the sound" (p. 39). As the 21st century advances and new digital narratives gain powerful mobility, it is considered a proposal for "remediation of content in many facets, which performs the dual role of visualizing music and musicalizing visual content" (Korsgaard, 2013, in Valdellós et al., 2016, p. 334).

An artistic definition of intersection is offered by Pallarès-Piquer et al. (2020) when analysing the series *Chernobyl*, understanding it as "an intersection of living images and consciousness, intersection developed in multiple narrative subplots, deployed in several scenes" (p. 791). They define the power of images "as background that generates perceptions [...] causing each viewer to be energized by the depictions of the action" (p. 794). And they go more to the centre of the discussion, calling attention to audiovisual creations that "influence people's perception and the reconfiguration of their expectations. Neither closed system nor pure social mirror [...] should be interpreted globally, inside and out, as an effect and as an imaginary model" (Lipovetsky & Serroy, 2013, in Pallarès-Piquet et al., p. 796).

Identity – an elusive concept that is widely used by the scientific literature from different disciplines – will be considered here as a prominent emotional component in relation to spaces for sociability. Identity as a result of the confluence of multiple factors is not something static or finished – it is a personal state under construction. Identity is proposed as processes of consonance or agreement, like vibrations in sympathy with music that is listened to alone or in a group. Identity is conceived in difference to achieve inclusion. Identification is "a process of articulation [...] subject to the 'play', of *différance*. It obeys the logic of more-than-one" (Hall, 1996, p. 3). This is the idea from which the study of songs is approached; identifying with them is identifying with a musical experience. "Music seems to be a key to identity because it offers, so intensely, a sense of both self and others, of the subjective in the collective" (Frith, 1996, p. 110). That is why it stands out as a component of intersection, because a social process of interaction is produced through it; music "articulates in itself an understanding of both group relations and individuality, on the basis of which ethical codes and social ideologies are understood" (Frith, 1996, p. 111). Assuming that identity is constantly shifting, the individual gets to know them-

selves – "that part of intellect called emotions" (Spoonie in Frith, p. 111) – and others from audiovisual experiences, producing (or not) an identification process: "I'm not that different from...".

Analysing music videos for the most listened-to songs

Educators' and researchers' concerns about the degrees and types of violence that tend to strain the classroom atmosphere at different levels of schooling can be seen in articles, awareness programmes, web pages and also the legislation that supports educational programming. The search for the origin of these behaviours has led to hypotheses about the influence that the texts and images of songs' music videos could exert over adolescents, acting as triggering elements or validators of these impulsive behaviours, generating a considerable scientific literature. However, this undertaking of research, awareness and prevention – inside and outside schools – seems to move at a different speed from the output of music video production companies. YouTube offers a "list of most listened-to songs" in which it is clear to see how violence, drugs, alcohol, and sex –associated with luxury and high economic status, on the one hand, contrasting with certain neighbourhoods or suburban or marginal areas, on the other – could explain or almost justify that it is easy to be tempted to blame this type of musical expression for social violence.

The reflection that is made, from the family environment and the different educational levels, could be a key tool to offer the necessary balance and thus avoid normalising (through repetition) the situations described by the figures for harassment, abuse, the killing of women, or other types of social violence (Hernández-Serrano et al., 2021). However, Ruiz (2015) concludes by making a sensible point in the face of the social alarm that is triggered by these repertoires, which is much broader and more diverse: "understand the relationship between the recording industry and consumers bidirectionally [...] and not generalize those exceptions that, although usually the best-known cases, do not represent the social and cultural reality" (Ruiz, 2015, p. 4).

As stated at the beginning of this article, I consulted the two most popular platforms: YouTube and Spotify. YouTube is a direct model for the success and follow-through of musical production, "determined by the number of visits [and downloads], becoming the natural heir to MTV" (Pérez Rufí et al., 2014, p. 40). YouTube has become a true revolution backed by the rise of social networks, or what some authors call the "musical Youtubification" (Márquez, 2017, in Baños-González et al., 2022). This platform is teenagers' favourite, according to consumer studies (Alexa ranking) and is the second favourite of the population as a whole. On the platform, music videos are the most common choice, ahead of adverts (Baños-González et al., 2022). Considering this data, I analysed the song charts for the years 2020, 2021 and 2022, focusing on 2021 for this article. This has allowed me to draw some conclusions with regard to the initial hypothesis: it is possible to take music videos as an in-

tersection between music, image and identity (emotion) as part of sensitive information to explain different responses in spaces for youth sociability.

The other platform I include in my research is the Swedish peer-assisted music streaming service Spotify, which gives its subscribers instant access to millions of tracks with two types of access: free and premium. According to studies into its users, listens are concentrated on desktop or mobile devices. Desktop devices accrue more uninterrupted hours of connection in the morning and somewhat fewer in the afternoon; mobile phones connect for shorter periods throughout the day (Zhang et al., 2013). This user behaviour results in categorising a broad panorama of ages, which also justifies the types of listening and the variety offered by its list of hit songs. Like YouTube, the platform uses recommendations that "reflect patterns already known, premieres very famous artists and rarely gives surprising advice" (Werner, 2020, p. 87).

Comparing the top five positions on the two platforms (Table 1), the songs on the Spotify list offer a different perspective from YouTube, which can perhaps be explained by it being a listening-only platform, as well as the unwritten piece of information from Zhang et al. (2013): the ages of the people who use it. The music videos of the most listened-to songs on Spotify tend to visually illustrate and amplify the stories, such as in the two heartbreak-themed songs by Olivia Rodrigo, or the star-crossed love-themed *Levitating* by Dua Lipa and DaBaby; Lil Nas X's song *Montero* (*Call Me by Your Name*), which shows a fight between good and evil represented by biblical and mythological characters, is symbolic. By contrast, the top five songs on the YouTube list satisfy the models described in the previous paragraphs about the platform's commercial direction. The reggaeton rhythm, sex, alcohol and luxury from *Crazy* and *Llueve* are combined with drug trafficking and violence in *Holy Ghost*. The ones that change character, theme and audiovisual narrative are *Luces* by Paulo Londra and *Calm Down* by Rema (rap and reggae respectively).

YouTube	Spotify
Crazy - Dímelo Flow, Wisin, Ozuna ft. Arcángel, Lenny Tavárez, Jay Wheeler	*Driver's license* – Olivia Rodrigo
Llueve - Wisin & Yandel, Sech, Jhay Cortez	MONTERO (*Call Me by Your Name*) – Lil Nas X
Holy ghost - Future	*Stay* – The Kid LAROI con Justin Bieber
Luces - Paulo Londra	*Good 4 u* – Olivia Rodrigo
Calm Down- Rema	*Levitating* – Dua Lipa con DaBaby

Source: YouTube web[4]; Spotify official web[5].

Table 1. ***Global listening list for 2021.***

Both platforms show different song content for Spain and there is no overlap with the five most

4 https://www.youtube.com/results?search_query=canciones+de+%C3%A9xito+de+2021. Accessed on 12th June 2022.

5 https://newsroom.spotify.com/2021-12-01/lo-que-mas-escucho-el-mundo-en-2021/#:~:text=La%20canci%C3%B3n%20m%C3%A1s%20escuchada%20en,%C3%A1lbum%20de%20estudio%20del%20artista. Accessed on 12th June 2022.

listened-to songs globally, which aligns with my analysis of the adolescent and youth listening this article examines. Table 2 shows two songs that appear for both YouTube and Spotify: Todo de ti by Rauw Alejandro, and Pareja del año by Sebastián Yatra with Myke Towers.

To study the videos, I use the parameters established by authors such as Simeon (1992), Goodwin (1992) and Valdellós in collaboration with other authors (2012; 2016). I adopt Simeon's ideas about the relationships between music, action and content: kinetic correspondence is the speed of the music in relation to the speed of the action; syntagmatic correspondence is the way in which the segmentation of the music supports the segmentation of the text and the correlation with the content, as well as direct allusions in the visuals regarding the sound, especially the lyrics (Simeon, 1995, in Valdellós et al. 2016, p. 337). Regarding the type of music video, I also take into account Valdellós et al.'s (2016) classification: *descriptive* "shows the singer or band performing the song after which the video is named, on a stage or in any other place" (p. 336); *narrative* is "those music videos that contain at least one *narrative programme*, even if it is very simple" (p. 336); and *mixed* (conceptual/performance or narrative/performance) combines acting with other staging.

Finally, reference is made to the types of shots that Andrew Goodwin proposes in *Dancing in the Distraction Factory: Music Television and Popular Culture* (1992) and the relationships between the image and the text, defining illustration, amplification and disjunction. Illustration occurs when "the visual narrative tells the story of the song lyrics" (Goodwin, 1992, p. 86), amplification is the addition of visual actions that are not directly in the lyrics, and disjunction is when there is obviously no relationship between the lyrics and the images or they even contradict each other (Goodwin, 1992, in Valdellós et al., 2016, p. 338). These approaches to studying music videos allow us to understand them as that intersection between text, music and visual elements that, in turn, has another touch point in the identities of their audiences.

YouTube	Spotify
Flamenco y Bachata - Daviles de Novelda	*Todo de Ti* – Rauw Alejandro
Todo de ti - Rauw Alejandro	*Pareja del Año* – Sebastian Yatra, Myke Towers
Loco - Justin Quiles x Chimbala x Zion & Lennox	*Yonaguni* – Bad Bunny
Ram Pam Pam - Natti Natasha x Becky G	*Fiel* – Los Legendarios con Wisin y Jhay Cortez
Pareja del Año - Sebastián Yatra, Myke Towers	*La Historia* – El Taiger con DJ Conds

Source: Official channels of YouTube and Spotify[6].

Table 2. ***Most listened-to songs in Spain in 2021.***

The music video for *Todo de ti* offers a text-image relationship along the lines of what Goodwin calls a disjunction, since the development of the story in the video has some points in common with the text, but in general it does not describe or narrate it – it is a love song set in a skating rink. Pareja del año is another love-themed song and its music video is descriptive, like *Flamenco y bachata*, a song that was released via social media on February 14. Flamenco

6 Ibid.

and bachata merge in the latter, and its music video would be classed as amplification: the singer in the foreground witnesses love scenes between a man and a woman dancing in a bar.

Pre-teen and teen listening

The following comparison cannot be offered with data from YouTube, as it is not possible to find reliable sources that identify the ages of those who watch music videos. I have therefore used two digital newspapers that have reported the songs listened to the most by children and teenagers on Spotify. This data must also be taken with caution because it has gone through the editorial filter of the newspapers *La voz de Galicia* (for teenagers) and *El mundo* (for children and families). Why is it so difficult to find this data on the platforms themselves? Prey et al. (2022) recently found that the same information cannot be accessed twice on the Spotify platform since it is constantly changing; in fact, it is only possible to identify the top five songs in 2021 and 2022, not for previous years. "Spotify does not provide an archive of songs that were uploaded in 2009, or playlists that disappeared in 2019" (Prey et al., 2022, p. 86).

Adolescentes	Niños y niñas (familia)
"Loca" - Khea junto a Duki y Cazzu	"*You're Welcome*" – De Moana/Soundtrack Version – Dwayne Johnson
"*Strawberry Kiwi*" - Rauw Alejandro	"*Into the Unknown*" – AURORA e Idina Menzel y Panic! At the Disco
"De Cora(zón)" - J. Balvin y Rauw Alejandro	"How Far I'll Go" – De Moana/Soundtrack Version – Auli'i Cravalho
"Vete Pal Carajo" - Yan Block con Jay Wheeler y DJ Nelson	"Un Poco Loco" – Anthony Gonzalez, Gael Garcia Bernal
"La noche de anoche" - Bad Bunny y Rosalía	"*The Cutest Puppy*" – Laureen Conrad
"*Dákiti*" - Bad Bunny y Jhay Cortez.	"*John Brown's Song*" – Gregory Oberle
"Antes" - Ozuna con Anuel AA	"*Twinkle, Twinkle, Little Star*" – Adelmar Borrego "*Itsy bitsy spider*" – Mingmei Hsueh
"Me contagié 2" - Anuel AA	"Rest time for blossoms" – Bernette Michael
"Tú me dejaste de querer" - C. Tangana con el Niño de Elche y La Húngara,	"*Lead the Way*" – Jhené Aiko
"Afloja", de Kadec Santa Anna	"No puedo vivir sin ti", Los Ronaldos
"Juntos por Atocha", de Dukee	"Vivir", de Rozalén con Estopa

Source: *La voz de Galicia* and *El mundo* about Spotify.

Table 3. ***List of listening by children and adolescents (Spotify).***

The relationship established in Table 3 reflects a significant disconnection between group music listening in children and teenagers. While children's listening is dominated by songs linked to movies (like the Disney movies *Raya and the Last Dragon, Frozen, Moana* or *Coco*), the others relate to the family setting through groups such as Los Ronaldos, El Canto del Loco, Estopa, DVicio, Farruquito and Rozalén[7], among other musicians, as well as children's piano melodies, associated with private settings and leisure time, as the title of one of the songs indicates.

7 Due to space limitations, I cannot include the complete list of songs outside the top ten.

Teen listening paints a very different picture. This contrast is justified because teenagers begin to distance themselves from the hub closest to them and insert themselves into that of their peers (Rice, 1999). Their spaces for sociability expand and some of the assumptions that are usually taken into consideration are the places that they frequent, series or video games, and music videos. In this context, they seek out different models from those at home, partly because they do not usually coincide and ultimately because of their need to identify with their peer group. Sometimes those decisions are not very drastic, but rather they are understood as "a process of adaptation [...] incorporating new traits based on their own experiences" (Ruiz, 2015, p. 32). This is how a teenager "links the concept of how they would like to be with the expectations that others have about them" (Ruiz, 2015, p. 32). In a study involving teenagers from a Spanish secondary school, the researcher concludes that "only a small minority have a disproportionate need [...] to see themselves reflected in their musical idols (personal connection) [...] most place more importance on the music itself than all the elements that surround it" (Ruiz, 2015, p. 33), admiring the expressive abilities about beauty, popularity or success.

My choice of two music videos was not random: I chose Loca because of its position on the list; I chose *No puedo vivir sin ti* because it's the first song on the list that is not linked to Disney movies or relaxation music. Both music videos fit into Valdellós et al.'s (2016) classification as "mixed" (conceptual/performance or narrative/performance), in which the performance of the soloist or group is combined with other staging, to strengthen not only the role of the musician but their relationship with fans.

> Mixed music videos allow for the expansion of the meanings of the musical discourse of the specific genre and of the lyrics with a narrative element or message, without renouncing to the physical presentation of the artists, thus maintaining the advertising objective of the music video as an audiovisual promotional format. (Valdellós et al., 2016, p. 337)

Loca – Khea with Duki and Cazzu

The most listened-to song on Spotify or most watched music video on YouTube by Spanish teenagers, *Loca*, is a complete contrast with the family listening environment. This song was written by Khea, a trap singer and rapper of Argentine origin who is accompanied by the Argentinean rappers Duki and Cazzu on this version. The video, released at the end of 2017, has more than 650 million views on YouTube and 200 million plays on Spotify. Loca was produced by Omar Varela and MYKKA, and the video was directed by Ballve. It was also a success in Latin America, ranking as the third most listened-to song in Argentina in 2018[8]. According to our classification of music videos, it is mixed with dual staging; the per-

8 https://www.mondosonoro.com/entrevistas/khea/. Accessed on 18th June 2022.
https://www.youtube.com/watch?v=XQoD_QD_DhM. Accessed on 18th June 2022.
https://open.spotify.com/episode/2jynI4dGNsURa07VUFS6HU?si=d6a4a2b284004234. Accessed on 18th June 2022.
https://open.spotify.com/track/2ECIwi1a7mfokdDkkJ08Ne?si=0bfcfab071a04edd. Accessed on 20th June 2022.

formers are filmed outdoors with abundant light, and the model who plays the protagonist, "Crazy", almost always appears in underwear, smoking, in vintage, semi-abandoned, semi-enclosed environments that are backlit or have low lighting. It is a narrative/performance video because, in addition to the three artists playing the lead roles, the text is always synchronised with both the singing and the aesthetics of the scene. Taking into account some studies on key lighting and its effects on the emotions of those who view the result, the play on light and shade here is also taken as a point of reference (Yazdani et al., 2013). The performers and the group of youths are in daylight, in open and natural spaces, and chatting openly. High-key lighting induces positive emotions and activation. Conversely, the (crazy) female lead is in semi-enclosed spaces with little light or backlighting and constantly smoking, which can induce a feeling of avoidance, waiting or anxiety. Tables 4 and 5 offer a thematic and visual narrative comparison.

Theme	*Loca*	*No puedo vivir sin ti*
Of the song	Sex – Desire – Drugs	Love
Of the music video	Sex – Desire – Tobacco	Descriptive
Convergence index	High convergence	High convergence

Source: Own elaboration, based on analysis by Guarino and Valdellós (2020).

Table 4. *Thematic content of* Loca *and* No puedo vivir sin ti.

	Loca	*No puedo vivir sin ti*
Characters	The three performers and the model, who plays the role of "Loca" (Crazy).	The performers and a young female group that performs choreography synchronised with the rhythm of the song. A mirror.
Actions	Outdoor performance. Narration in semi-closed contexts.	In a gym, without an audience.
Structure	Chorus – Verse	Introduction – Verse – Chorus
Special features	Cazzu's solo voice appears at the end of the music video, although the initial model does not completely disappear.	The prominence of the mirror with which the images merge. Introduction and interlude played on a piano that is never seen.

Source: Own elaboration, based on analysis by Guarino and Valdellós (2020).

Table 5. *Narrative design of* Loca *and* No puedo vivir sin ti.

No puedo vivir sin ti – Los Ronaldos

Older than the rest of the songs on the Spotify chart, *No puedo vivir sin ti* (I Can't Live Without You) is from 2007 and was written by Coque Malla. It was released in EP format on *Cuatro Canciones* and, according to its writer, it was inspired by the relationship between two homosexual people. Although it has been covered by groups such as El Canto del Loco or Andrés Calamaro, the music video being referenced is that of Los Ronaldos[9]. Due to the period of production, this video has "classic" characteristics with a variety of different shots

9 https://happyfm.es/musica/lyrics/no-puedo-vivir-sin-ti-de-los-ronaldos-letra-historia-y-video-191820/ Accessed on 15th July 2022.

of the singer (Goodwin, 1992). This is complemented by screenshots of the young people performing their choreography, especially in the introduction and interlude; sometimes they are in the foreground, while still showing the music group's reflection.

The synchronisation of the music with the images is kinetic, as well as the rest of the visual effects (symmetrical games with mirrors). Bearing in mind the study of keys on the generation of emotions in music videos, the use of colour is enhanced in *No puedo vivir sin ti* and selection, proportion, and contrast complement the text, influencing the description. Intense colours, such as electric blue and yellow, predominate in both the scene and the young women's clothing, contrasting with the black that the musicians and singers wear. This colour combination communicates calm emotions and low arousal (Yazdani et al., 2013).

The repertoire of young students on the Degree in Primary Education

For this section, I have worked with a series of questionnaires from the 2020–2021 academic year, completed by trainee teachers studying Music on the Degree in Primary Education at the University of Oviedo. This same questionnaire was answered by different groups in 2017–18, 2018–19 and 2019-20. However, even though the groups changed throughout the three consecutive school years, the samples obtained were very similar, bearing in mind that listening is mediated by the transient nature of "hit songs". The following table compares the two fields in which the surveyed teachers' responses have been grouped: personal listening and the songs that they would choose to share with their students (didactic use). The number in parentheses is the number of times the song was mentioned.

Personal listening	Songs for my classroom
We are the world (5) Lionel Richie, Michael Jackson	*La puerta violeta* (16) Rozalén
Zapatillas (3) Dani Martín; El canto del loco	*Se buscan valientes* (10) El Langui y algunos niños
Human (3) Christina Perri	*De ellos aprendí* (7) David Rees
De ellos aprendí (3) David Rees	*A ningún hombre* (6) Rosalía y El Guincho
A quién le importa (2) Carlos Berlanga y Nacho Canut / Fangoria	*Mean* (6) Taylor Swift
Cero (2) Dani Martín, Luis Fernando Ochoa e Iñaki García	*Born this way* (5) Lady Gaga y Jeppe Laursen
Count on Me (2) Bruno Mars	*No dudaría* (4) Rosario Flores
Peter Pan (2) El canto del loco	*Stop bullying* (4) Subze y Diego Ojeda
Soldadito de hierro (2) Nil Moliner y Dani Fernández	*Que nadie* (3) Manuel Carrasco Manuel Carrasco, Malú
The bare necessities (2) Phill Harris y Bruce Reitherman	*We are the world* (3) Lionel Richie, Michael Jackson
La puerta violeta (2) Rozalén	*Human* (1) Christina Perri

Source: Own elaboration from survey results from the 2020–2021 academic year.

Table 6. ***Listening list of university students.***

I have selected *Human* and *La puerta violet*a from these two lists as they appear in both, although in different proportions[10].

Human – Christina Perri

10 The list is much more extensive, but for length reasons it has been limited to the top results.

The singer, who released the song in 2013 on her second album, co-wrote it with Martin Johnson, who produced it. The official video for *Human*, directed by Elliot Sellers, premiered on 3rd January 2014 and has had more than 250 million views on YouTube[11]. It is a descriptive/performance music video, with kinetic and syntagmatic correspondence; its production focuses on close-ups and middle-distance shots of the singer. In some sequences, by way of amplification, we see the mechanics of a robot in parts: an arm and a leg, among others. In the third and final repetition of the chorus, the singer shows the tattoos on her body, symbolising her complete humanisation. The students justified their choice because of identifying with the feelings of breaking as a result of unmanageable or stressful situations, and also because of the inspiration to draw strength and "to be, to give and to do many things but, above all, to be human". It was also chosen for working with pre-adolescent students on emotional control. In Tables 7 and 8, I compare the content and design of the songs *Human* and *La puerta violeta*.

Theme	*Human*	*La puerta violeta*
Of the song	Human imperfection	Gender violence
Of the video	Differences between human beings and machines; transformation of the human being.	Violence is represented in a burned forest, a door with chains, and finally a fertile forest.
Convergence index	High convergence	High convergence almost always, but at one point it offers the option of a disjunction

Source: Own elaboration, based on analysis by Guarino and Valdellós (2020).

Table 7. *Thematic content of* Human *and* La puerta violeta.

	Human	*La puerta violeta*
Characters	The performer, a human. Parts of a robot (arm, leg, etc.).	The performer, who plays the woman, and a model who appears on occasion.
Actions	Actions take place in a completely white room, although the introduction looks like space.	Actions take place in a forest, first burned and then with green, healthy colours.
Structure	Introduction – Four-line verse and Chorus	Four-line verse – Chorus
Special features	It offers the transformation of a person, first acting as a machine and then presenting their humanity.	The transformation of a landscape represents the healing of a person who has suffered violence.

Source: Own elaboration, based on analysis by Guarino and Valdellós (2020).

Table 8. *Narrative design in* Human *and* La puerta violeta.

La puerta violeta – Rozalén

La puerta violeta, which became an anthem in the fight against gender violence in Spain and several Latin American countries, is from the album *Cuando el río suena* (released in Sep-

11 https://www.youtube.com/watch?v=r5yaoMjaAmE. Accessed on 21st July 2022.

tember 2017), which went to number one on all digital platforms that same month[12]. The content of the mixed narrative/performance music video correlates, in terms of the text-image intersection, and has amplified narrative features. The use of close-ups is synchronised with the most intense moments in the text. The shots of the singer correspond to the semantics of the text, as can be seen in table 9. The close-ups of Rozalén's face are highlighted in yellow in Table 9 and full-body shots are in green. The video's other protagonist, which can be understood as a part of the embodiment of emotions, has not been taken into consideration in this case. Another interesting aspect is the disjunction (Goodwin, 1992): the video reveals a burned, desolate landscape for verses 15 and 16, which express the literal opposite, in contrast with the imagery used for verses 40 and 41.

Una niña triste en el espejo me mira prudente y no quiere hablar	1	
Hay un monstruo gris en la cocina	2	
Que lo rompe todo	3	Close up
Que no para de gritar	4	Close up
Tengo una mano en el cuello	5	
Que con sutileza me impide respirar	6	
Una venda me tapa los ojos	7	Close up
Puedo oler el miedo y se acerca	8	Close up
Tengo un nudo en las cuerdas que ensucia mi voz al cantar	9	
Tengo una culpa que me aprieta	10	
Se posa en mis hombros y me cuesta andar	11	
Pero dibujé una puerta violeta en la pared	12	
Y al entrar me liberé	13	
Como se despliega la vela de un barco	14	
Desperté en un prado verde muy lejos de aquí	15	Disjunction
Corrí, grité, reí	16	
Sé lo que no quiero	17	Close up
Ahora estoy a salvo	18	Full-body shot
Una flor que se marchita	19	
Un árbol que no crece porque no es su lugar	20	
Un castigo que se me impone	21	
Un verso que me tacha y me anula	22	Close up
Tengo todo el cuerpo encadenado	23	Close up
Las manos agrietadas	24	
Mil arrugas en la piel	25	
Las fantasmas hablan en la nuca	26	
Se reabre la herida y me sangra	27	Close up
Hay un jilguero en mi garganta que vuela con fuerza	28	Full-body shot
Tengo la necesidad de girar la llave y no mirar atrás	29	Close up
Así que dibujé una puerta violeta en la pared	30	
Y al entrar me liberé	31	
Como se despliega la vela de un barco	32	Full-body shot
Desperté en un prado verde muy lejos de aquí	33	
Corrí, grité, reí	34	
Sé lo que no quiero	35	
Ahora estoy a salvo	36	
Así que dibujé una puerta violeta en la pared	37	Close up
Y al entrar me liberé	38	
Como se despliega la vela de un barco	39	
Amanecí en un prado verde muy lejos de aquí	40	
Corrí, grité, reí	41	
Sé lo que no quiero	42	Close up
Ahora estoy a salvo	43	Close up

Source: Own elaboration

Table 9. ***Analysis of visual shots in*** **La puerta violeta.**

This song was chosen by 16 of the 60 trainee teachers who carried out the exercise (Table 6) and they justified their choice based on the usefulness of both the text and video for making students reflect on gender violence in their classes. They preferred it to others of the

12 https://www.rozalen.org/#biografia. Accessed on 21st July 2022.

same theme because the music video is not visually aggressive to little ones' sensitivity.

Discussion and conclusions

After studying global and local listening on two widely used platforms and analysing the questionnaires used in the 2020–21 academic year to find the points of intersection in spaces of sociability generated from listening, I suggest some areas for future research. First, I propose looking at the virtual world of music – platforms and social networks – as containers and multipliers of musical experiences and, second, delving into the effective influence of such platforms and networks on teenagers' and young people's long-term behaviour resulting from these musical experiences. Likewise, I propose moving away from extreme scenarios to instead focus on spaces for coexistence that can be generated from inclusive musical experiences in the classroom. Music is one of the most recommended affective mediators for connecting with children and teenagers.

Regarding the first of these discussion items – the role of platforms when listening to a music video – one obvious data point is the language of the songs. Of the top 50 songs on the YouTube chart for 2021, 35 are sung in Spanish. This leads to the partial conclusion that either the platform is directed almost exclusively at the Latin market or that Latin music with a rhythmic base of reggaeton has prevailed in the international music market; of the 15 songs that are in English, four of them are peculiar demonstrations of Spanglish. This first reading leads on from the results obtained by Baños-González et al. (2020), who compared the trends in viral music videos between 2015 and 2018, concluding that consumption of Latin music rose from 5% to 24% in that period. Combining the figures, 90% of songs in 2015 were sung in English, 70% in 2018 and 30% in 2021. On the contrary, Spanish rose from 5.5% in 2015 to 22% in 2018 and to more than 60% in 2021.

The widespread use of listening and viewing platforms is undeniable, and not only among teenagers and young people, which gives rise to necessary discussions such as the influence that this generates: Is it negative? Harmful? Do they listen and watch with indifference? Do they take a passive stance towards violence? And in terms of this possible projection in musical identity, understood as the intersection of emotion, music and sociability: Can these influences be established or transferred directly to aggressive or asocial behaviours? According to adolescent psychology, the fact that they are almost permanently connected has created another aspect of identity: digital. It is a virtual representation of themselves that is malleable and editable every day, based on which they can perpetuate and be consistent with the story they tell about themselves, seeking feedback from their environment (Lardies & Potes, 2022). Lardies and Potes do not see a completely negative picture; on the contrary, they understand that there is an opportunity to use technology for good to work on the "management of privacy, self-representation and narration" of their own identity online (p. 107). This suggests that the images of sex or consumption reproduced in music videos may be seen as no more than self-representation in that virtual world and not

necessarily as social behaviour to emulate. Relatedly, some surveys indicate that reggaeton and trap are what teenagers listen to in a group when in public social spaces, but that pop music prevails in private. Completing these reflections, "music video addresses the emotions of the viewers through the symbolic representation of what is desired, prohibited and feared" (Levis, 2004, in Baños-González et al., 2020, p.121).

Despite the various discussions and conclusions that the scientific literature proposes regarding a vast repertoire of songs that, implicitly or explicitly, display violence, sex, the cult of money, objectification of bodies, and use of drugs, alcohol or tobacco, with their consequent negative influence on the formation of adolescent sensibilities (Sánchez Montilla, 2021; González Viejo et al., 2018; Ramiro-Sánchez et al., 2018; Illescas et al., 2017), the repertoire I chose for this article does not show a correspondingly negative trend. Although the lists of most listened-to songs among teenagers show the dominance of love themes (love/heartbreak) in the styles of trap, reggaeton and pop and some music videos include sexual content – intensely in Loca and less explicitly in *Strawberry Kiwi* – the outlook is different for child listening in family settings.

This positivity in certain studies and the somewhat negative summaries in others can be contrasted with researchers' conclusions about how lists of hits are put together. Spotify, which is not too different from YouTube, is utilising its "editorial capacity to transform the industries" it mediates and to create dependency among both audiences and artists and record labels (Morris & Powers in Prey et al., 2022, p. 76). This calls into question the supremacy of this chart data, implying a hint of illusion.

But if surveys of listening data do not come from the charts published by the platforms but rather are collected *ad hoc*, those responsible for social spaces of interaction where music has a big influence must be mindful of reflection and awareness. Picking up where I left off at the beginning of this article about identity as a constantly changing process that is perceptibly influenced by knowledge of one's own emotions and those of the group, reflection and communication are crucial. "It is not just about a connection between artistic expression and personality but about the dynamics of supply and demand, which fuel each other, while progressively constituting the spectrum of human profiles of today's youth" (Faure et al., 2020, p. 18). Although Faure et al. (2020) convey the fruitlessness of resisting platforms' and networks' new way of perceiving and presenting music, it is possible to work on emotions, thinking, and – why not? – aesthetics, as Frith (1996) proposed, given music videos accentuate these aspects.

The hopeful conclusions I offer in this article are reinforced by the results of the surveys of trainee teachers in the 2020–2021 academic year. Through its music choices, the group shows itself to be sensitive to the social reality, conflicts, and exclusion; they identify with caring for the planet and recognise themselves in their musical heritage while valuing world cultures. This repertoire shows the identity of young people who, for the most part, seek to recognise themselves in the group or in another person at a time when they are consolidat-

ing their life emotionally and shaping their professional life. Regarding listening for pleasure and personal interest, the repertoire is very varied; personal preferences are heterogeneous, which speaks to the concept of diversity in the classroom (Barroso, 2017). The list of songs (Table 6) covers different rhythms, languages and musical genres, but the theme of love predominates.

The choice of this repertoire reveals two perspectives that must be highlighted. On the one hand, the students' sensitivity translates into a group of songs dominated by pop, which is the music that accompanies them in their day to day. On the other, when considering a repertoire for their educational role, their choices show an important component of reflection, since they propose a variety of genres and styles that translate into a responsible understanding of their educational mission. Both choices serve to conclude that not all young people who listened to music videos with high sexual, violent or drug-related content as teenagers behave in a way that reproduces those patterns. Identities are processes – they include spaces where "musical pleasure is never just a matter of feeling; it is also a matter of judgement" (Frith, 1996, p. 115). The intersection of sound and image in the identity of those who have to prepare inclusive educational settings is encouraging and invites us to continue working with optimism.

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Sound in the Choral Context of Secondary Education:

Vocal Assessment Model and Practical Strategies

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RESUMEN

El canto coral, además de ser una actividad de equipo que proporciona un amplio desarrollo vocal y auditivo, es una poderosa herramienta de comunicación a través del sonido por su relación con el texto y sus armonías específicas. Son ya numerosas las investigaciones que demuestran los beneficios que la actividad coral ofrece a los adolescentes; sin embargo, es llamativa la amplia diferencia entre el número de coros juveniles frente a los coros de niños o de adultos. Una de las razones es que, durante este período, los adolescentes sufren sus mayores crisis vocales, como consecuencia de los abruptos cambios hormonales que afectan a su laringe. Para los directores y directoras de coro supone un desafío acomodar el material existente o crear material específico para estas dificultades vocales, y la falta de herramientas de los directores y directoras de coro para tan específico colectivo puede ser lo que justifique que haya tan pocos coros de adolescentes.

Este artículo presenta un modelo de diagnóstico vocal para el trabajo coral con jóvenes, basado en categorías sonoras, y plantea una serie de estrategias para desarrollar el sonido en las agrupaciones corales juveniles a través de ejercicios diseñados para entrenar dichas categorías adaptadas a las dificultades específicas de los adolescentes.

ABSTRACT

As well as a group activity that provides wide-ranging vocal and auditory development, choral singing is a powerful communication tool through sound because of its relationship with the text and its specific harmonies. There is plenty of research demonstrating the benefits that choral activity offers adolescents; however, the difference between the number of youth choirs and choirs for adults and children is striking. One reason is that adolescents go through their biggest vocal crises due to the abrupt hormonal changes that affect their larynx. It is a challenge for choral conductors to accommodate existing material or create specific material for these vocal difficulties, and the lack of tools available for conductors of such ensembles may justify the shortage of adolescent choirs.

This article presents a vocal assessment model for choral work with young people based on sound categories, and proposes a series of strategies to develop sound in youth choral groups through exercises designed to train those categories in ways adapted to the specific difficulties faced by adolescents.

Introduction: preliminary considerations about choral sound

Choral sound is more than the sum of individual sounds. While it is true that each voice is unique, choral sound requires different voices to sound and be perceived as just one. The collective experience provides the opportunity for choristers to share a joint activity that involves ensemble work, balance, tuning and blending of voices.

In recent years, the importance of choral activities in schools has become clear – they provide many extra-musical benefits, especially during adolescence (Santamaría, 2019; Turnon & Durrant, 2002). Youth choir work is particularly necessary on a social level, since it fosters collaboration, consolidates dynamics and values such as empathy and respect, provides a means for communication and expression, generates a sense of belonging and integration, and offers common objectives, both interpersonal and for group work (Caycho, 2018; Fernández Herranz, 2013; López-Casanova et al., 2021; Kennedy, 2002). Choral activity also facilitates knowledge and mastery of one's own body in a period of personal crisis. It provides a space where adolescents can strengthen not only their specific musical training but also their learning capacity and physical and psychological wellbeing while developing their abilities, their confidence and personal assertiveness (López-Casanova et al., 2021; Sandu, 2019).

Unfortunately, several authors have verified the lack of or decrease in youth choirs compared with children's or adult choirs, which is why they advocate the need to set up more choirs in schools (Grau, 2009; Collins, 2011; Calle, 2014; Fernández Rivera, 2015). This decrease seems to be due, in large part, to the lack of didactic training in specialised singing and the basic technique of choral conducting for compulsory secondary education and Baccalaureate teachers. Teachers of older year groups in schools and institutes do not generally receive training to teach singing, and even less so surrounding the particular problems of adolescents who are going through such a critical period for their voice, including voice breaking, body insecurity, and hormonal changes so abrupt that they affect vocal production and mood, as well as social and interpersonal issues arising from group work (Elorriaga, 2011). Youth choirs also face significant challenges in making assembled sounds, given the variability produced by hormonal changes in teenagers. Some authors have echoed this problem and formulated strategies for educational sessions that address key aspects of the organisation and operation of an amateur choir in a secondary education or Baccalaureate context (Benavides, 2019; Souza, 2020; Cruz, Paixão & Oliveira, 2021; Rodríguez Pérez, 2019), which we will develop and expand on in this article.

The main objectives of this research are, firstly, a bibliographic review of the meaning of choral sound and its particular characteristics among adolescent groups; second, the proposal of a model for assessing the individual vocals of young choir members based on categories and, finally, extending the existing proposals for choral exercises in secondary education, focusing on strategies that develop the sound in such collectives, taking into account the unique characteristics of their members. We are convinced that greater and

more accessible material contributes not only to increasing the still limited quantity of specialised exercises in adolescent choirs but also to promoting interest in and consideration of this activity among a group with such specific characteristics.

Characteristics of youth choirs

Youth choirs are different from other choral groups. Their particularities derive mainly from gender issues, since most teen choirs are made up of women. María Jesús Fernández Rivera (2015) found that there is a considerable difference between the percentage of males (26%) and females (74%) who sing in children's and youth choirs in Spain. This is due to both social and physiological reasons. First, as Cristina Arriaga (2007) explains, the difference in the percentage of girls and boys in youth choirs is due in large part to gender stereotypes instilled during childhood and maintained in adolescence. A similar conclusion was reached by Patrick Freer (2012) about youth choirs in the United States; he proposes that choir directors need to maintain adolescents' motivation to continue singing.

The greatest challenges with a youth choir go hand in hand with the abrupt changes that adolescents experience. These come up in social situations, such as a choir, where they must use their voice when it is in the middle of a hormonal revolution. For this reason, the choral director must pay particular attention to, have specific knowledge of, and use exercises designed to overcome the specific difficulties of this group. Adolescence, between approximately 10 and 18 years of age, produces the greatest change in the voice, most noticeable in male voices. During this time, there are rapid changes in the growth of the larynx: its length increases and the vocal cords gain mass and thickness, giving rise to a change in range, which drops by an octave. At the same time, vocal power increases thanks to the development of the lungs and the resonant cavities.

This rapidly changing situation inhibits the adolescent from quickly adapting to their new vocal pattern, generating an unstable sound and detuning. At this stage, it is very common to observe vocal disorders such as "puberphonia" or mutational falsetto (characterised by "bitonality", pitch breaks when speaking, hoarseness and tiredness of the voice), "bitonality" (caused by an abnormal vibration of the vocal cords) or "diplophonia" (the production of a vocal sound with two different tones simultaneously) (Elorriaga, 2012).

Getting to know the choristers' voices might sound obvious; however, when we talk about such a group of young people, we have to take into account a fundamental characteristic: the voice breaking. To choose the most appropriate repertoire for this age group, the vocal director needs to understand the instability and changes in the adolescent voice. Most of the studies of voice breaking deal with male voices; however, even though females do not go through such a radical change as males, verifiable changes are observed for the former too (Harris, 1987; Gackle, 1991). Lynne Gackle (1991) also divides voice breaking into different phases (which have no fixed character but that function as a model of order) through which the voice changes in a prolonged way over time, and which are due to the level of

maturation of the laryngeal organ, and the timbre and quality of the voice when it is time to sing. If we add to this situation the contemporaneous hormonal and psychological changes, we can understand the difficulty an adolescent faces to adapt the behaviour of their vocal tract to speech and, even more, to singing.

Strategies for approaching choral sound with adolescents

There are many possible options for choral work with adolescents, including the formation of a youth choir that regularly rehearses during school or break times, the implementation of an optional subject related to choral singing (only possible in certain autonomous communities), or holding one or more weekly choir sessions as part of the music curriculum. Within any of those options, the shaping of choral sound should be afforded sufficient rehearsal and preparation time by the choral director (presumably the school's music teacher). This is important because music is, in large part, the art of communicating through sound, and that also brings to the fore work on sound in a choral context.

Directors make use of particular tools and activities to obtain the sound they consider suitable for their choir or for a certain piece. In the case of a youth choir, these tools must be adjusted to take into account the main aspects of adolescent changes that affect their vocal, physical and emotional status. Given the speed with which the voices of young people change, it is necessary to assess their voices on an ongoing basis to know what elements of vocal pedagogy should be used at all times.

Vocal assessment

First, we propose a tool that enables the process of vocal training to be monitored to benefit the choral group's performance. The chorister's tessitura and passagio note are observed to develop a greater understanding of the range in which the young person will feel most comfortable singing. Given the abrupt changes during this period, it is essential to constantly monitor and record the tessitura to protect vocal health. This aspect will give more information to the conductor and will allow the chorister to know their voice and reinforce their confidence when singing. In the same way, there is a record of their proficiency in high and low registers, enabling their range to be adapted as their voices change. It is also essential to record their ability to tune, breathe, articulate, use dynamics, and blend their voice, as well as their physical state, to map out activities aimed at development and training within those categories. Finally, singers' vocal health must be pursued as the main objective. An early assessment of possible disorders will not only prevent choristers from abandoning choral singing but also pre-empt future physical and emotional difficulties in young people.

We recommend keeping a record of each choir member (see Table 1) and making a first assessment at the beginning of the choral activity (the month of September or October in the case of a school). In addition, it would be opportune to repeat said assessment in December and March or April (assessments 2 and 3 in Table 1) to confirm the data, add to it and, based

on the results, make any changes to the choral ranges. Based on this, it is possible to create a specific work plan that addresses the problems encountered, if any, and improve the sound quality of the group in the medium term.

Categories	Assessment 1	Assessment 2	Assessment 3
Tessitura (E2 – A5)			
Passagio note (Observed / Not observed)			
Proficiency in high registers (No / In progress / Yes)			
Proficiency in low registers (No / In progress / Yes)			
Tuning (No / In progress / Yes)			
Dominant timbre (*Sob, Falsetto, Twang, Speech, Opera, Belt*)			
Blend (No / In progress / Yes)			
Vocal disorders (Not detected / Yes)			
Posture (Correct / Incorrect)			
Ability to relax (No / In progress / Yes)			
Proficiency in breathing (No / In progress / Yes)			
Resonance (No / In progress / Yes)			
Proficiency in articulation (No / In progress / Yes)			
Proficiency in dynamics (No / In progress / Yes)			

Table 1. Vocal assessment categories.

Strategies for a first assessment

We must take into account, as already mentioned, that choral sound requires both general and specific individual and group vocal work, which will vary according to the piece that is being learned and the characteristics of the choir and each chorister. In this article, we therefore propose a series of guidelines and exercises aimed at improving each one of the aspects that directly affect the sound of youth choral groups, but not without first referring to an essential aspect: carrying out an initial test to gain a good understanding of choristers' vocal characteristics. As previously mentioned, it is necessary to assess the voices within a month of starting the choral activity to discover the particularities of singers' voices, range, tessitura, timbre type, and ability to adapt to a suggested sound, as well as to detect potential disorders early on.

Given adolescence is a period in which it is common to feel embarrassed or afraid to sing alone or in front of other people, it is necessary to have a repertoire with a wide range of strategies that solve or lessen this problem. In this regard, we suggest performing the assessment during the third or fourth rehearsal, after having made a vocalisation and sung

a piece together. Having already met the conductor and other singers, the youngsters will not feel as exposed as on the first day. In earlier sessions, exercises could be done to build trust with the director, overcome embarrassment, and ensure that the choristers feel comfortable with the group. An individual assessment also enables more realistic results to be obtained, provided the voice is not distorted by nerves. We recommend carrying out an evaluation every two or three months in order to compare the results obtained the first time, observe vocal development, and put together a plan of improvement for the following months.

The session, which involves only the conductor and the singer, begins with making two vocalisations. Exercise 1 (Figure 1) is performed in a central register, first going up and then down by semitones on each repeat (without passing D4 or C3). This enables the director to observe the vocal timbre and if there is any speech or respiratory disorder, in which case it should be referred to a specialist. The use of "n" and "s" makes it possible to assess the student's ability to emit consonants according to their manner of articulation (nasal or obstruent) and phonation (voiced or voiceless). As for vowels, when singing "o" (open or low vowel) during the first exercise, the vertical dimension is visible with the movement of the jaw and tongue.

The second exercise (Figure 2) serves to determine pitch and detect possible voice defects that can lead to vocal damage. For this, the chorister sings in both high and low registers. This exercise incorporates "i" (closed or high vowel), which together with "a" (central open vowel) allows the teacher to assess articulatory ability.

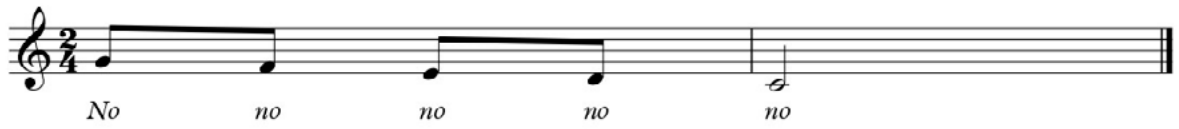

Figure 1. Exercise 1.

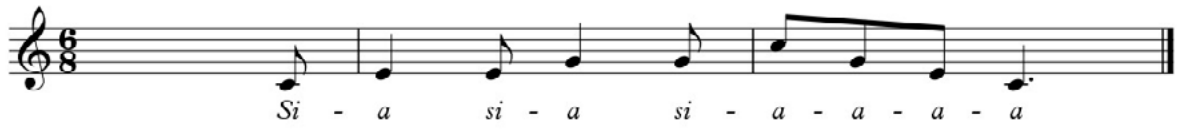

Figure 2. Exercise 2.

Thanks to the insistence of singing teachers, the repertoire sung by youth choirs in recent years has begun to be selected based on vocal potential and vocal health so as not to injure voices that are still developing (Rodríguez Pérez, 2019). The selected repertoire can be a big reason for adolescents being attracted to and remaining in the choir. Therefore, it is very important to consider age-specific vocal limitations alongside musical tastes. According to Isabel Villagar (2019), adolescents mostly enjoy short pieces with a

lively rhythm, a melody that is spread across all voices so that everyone feels like a protagonist and not just an accompaniment, logically distributed breaths, a clear and easily memorised structure, a dialogue that alternates between the voices, and a text that is not childish. Take account of the tastes of the choristers, as this directly affects their permanence within the group and enthusiasm.

The next step is for the students to be asked to sing a fragment of a song of their own choosing. This activity provides an understanding of both the student's repertoire as well as the register in which they feel comfortable singing. Furthermore, it is an opportunity for the director to round out their understanding of the timbre and detect difficulties with the output. Finally, they will be asked to sing along with the conductor or a partner of the same sex who has greater experience and vocal proficiency, to observe their ability to adapt to what they hear[1].

This information is used to complete the assessment table (Table 1), although it is important to note that some categories will be more difficult to assess on first contact. For example, the blend and the use of dynamics are aspects that we cannot verify during this first meeting because they require working together and with the repertoire. These categories may be evaluated in the second and third assessments.

Strategies for specific sound work in the choral context[2]

This proposal does not establish a session schedule because we devised it as a series of exercises that the person in charge of the group must select according to each rehearsal's objective. Therefore, in their preparation for the rehearsal, the choral director will decide which activities can be attempted, their duration in proportion to the time available, and other aspects, such as whether they are performed as proposed or whether it is necessary to make some adaptation for the group[3].

a) *Group vocal technique exercises*

Many studies have verified the positive effects of vocal psychomotor training for respiratory development (lung capacity and breathing control), tuning, expanding the tessitura, and precision of sound (Mang, 2001; Phillips & Aitchison, 1997; Ternström & Sundberg, 1988).

- Physical relaxation:
  Stretch the arms, back and neck, avoiding sudden movements. Open the arms in a cross for a greater aperture of the sternum and do hip, knee, ankle and wrist twists, to activate

1 We refer only to those exercises aimed at discovering a singer's vocal characteristics through their direct relationship with choral sound, but it would be appropriate to complete the vocalization with the repetition of single notes or intervals and perform other exercises to evaluate listening skills.

2 The suggested exercises are inspired by those learned from some of our choral conducting teachers: Basilio Astúlez, Josep Vila, Elisenda Carrasco, Marco Antonio García de Paz, Josu Elberdin, David Azurza and Javier Fajardo.

3 In addition to our specific proposal of exercises to develop choral sound, the technique of choral direction allows the conductor, after active listening, to modify and transform the sound in real time through gestures.

muscles and joints. Arrange the singers in a line, one behind the other, resting their arms on their partner's shoulders to make a train. Give the person in front a soft massage, rotating the thumbs on the back and shoulders, avoiding the surface of the shoulder blades and the spine. Afterwards, switch the direction of the train so that the last person in line also receives the massage.

- Facial relaxation:
  Perform a gentle massage on the forehead, eyebrows, cheekbones, jaw and area in front of the neck, and open and close the mouth leaving the jaw very relaxed while paying attention to the gap that is generated in front of the ears, where both jaws meet. Stick out the tongue and move it from side to side, upwards and downwards, run it in and out of the teeth, and blow kisses to activate the lips too.
- Lip trill, lip roll, or blowing a raspberry:
  Make the lips vibrate as if blowing a raspberry and perform ascending and descending glissandos, gradually extending the range with each repetition. To successfully perform this exercise, the facial muscles must be completely relaxed. Also, it may help to place the index fingers on each side of the lips and gently press to start the movement.
- Body placement:
  Good body position starts with the feet. They should be approximately shoulder-width apart and a little open (not parallel to each other), so that balance is not lost if the trunk moves backwards and forwards. The knees should not lock and the chest should be in a naturally open position. The shoulders and neck should be relaxed as well, as should the arms, which should remain at the sides of the body without crossing them or putting the hands together.
  It is also good to remind choir members that strengthening the abdominals helps to anchor the trunk and can provide support. At home, do forearm planks, side planks, crunches (lying face up, separate and lift the shoulder blades off the floor so that the abdomen is contracted), knees to the chest (lying face up, bring the knees to the chest and extend the legs without supporting them), and climbers (plank, bring knees to chest) – these are floor exercises and are difficult to do in a classroom.
- Proprioception[4]:
  The first exercise is to sing a short melody. Open and close the mouth slowly several times with eyes closed, noticing how the jaw moves. Check what the tongue, jaw, and lips do, and how much space is generated. Then transfer attention to the breath and the rest of the body, the abdomen and the shoulders, to check if there is any tension. Finally, sing the initial melody again, now more aware of what happens in the respiratory and vocal tracts. The Proprioceptive-Elastic Method (PROEL), the discipline of mindfulness and the Feldenkrais method all propose exercises that improve our proprioception, which

4 La "propiocepción" es el sentido que nos permite percibir la ubicación, el movimiento y la acción del cuerpo. Nos permite regular la dirección, el rango de movimiento y contribuye a la imagen corporal y su relación con el espacio.

helps us understand which movements benefit vocal sound and comfort when singing, as well as the tensions and blockages that inhibit healthy phonation.

- Breathing:
  Close the eyes and take three deep breaths, each at their own pace. This helps connect with breathing, focus attention, and achieve silence in the classroom if the group is unsettled. The same exercise can be done sitting on a chair, with the elbows supported in the area above the knees, which implies that the body is leaning forward slightly – a comfortable position for abdominal breathing.
  With feet apart, as indicated in the body placement section, but with the torso leaning slightly backwards and the hands on the waist, inhale slowly while the conductor clicks their fingers four times, then expel air by making the *ssss* sound for 14 conductor clicks. Imitate the conductor, who will perform four-beat rhythmic patterns with the sounds *tsss, shhh, ffff, ksss*, and *hhhh*. Fricative consonants are useful for developing respiratory awareness. It is essential to emphasise that there should be no glottal attack when making rhythms with *hhhh*.
- Projection-resonators:
  Circular humming: make glissandos with the letter "m" while turning the lips and jaws, as if imitating a cow chewing cud. The jaws must be slightly apart and the lips together but relaxed, to allow a tingling sensation and feel the nasal resonators. Another option is to inwardly say the syllable nol, keeping the shape of an "m" on the lips. Another variation would be to do the same exercise but with five-note descending scales (G F E D C), rising by semitones on each repeat and descending when a high register is reached (Figure 3).

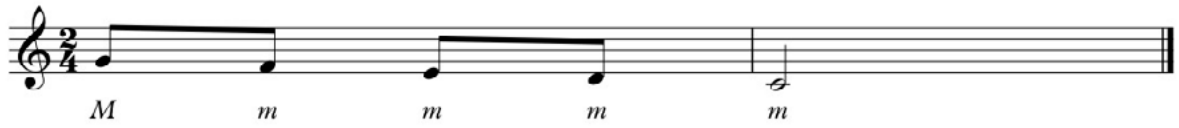

Figure 3. Exercise 3.

Perform descending major third intervals (Figure 4) while pronouncing the words mango mongo mungo. Raise by semitones on each repeat, lower by semitones, or pretend that the first note is unexpected, to activate the hearing and maintain focus. The nasal consonants "m" and "n" combined with the "g" allow the exploration of resonant cavities.

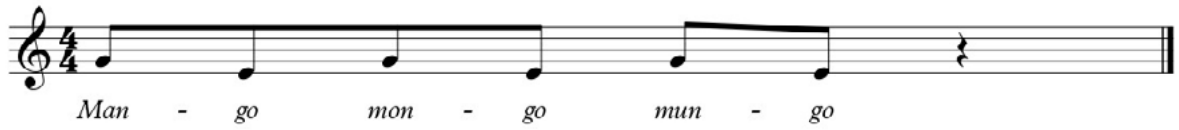

Figure 4. Exercise 4.

Make siren sounds (wide glissandos) through a straw inserted into a large glass bottle half-filled with water. A wider straw diameter will enhance how the exercise is performed, so we recommend using straws approximately 12 mm in diameter. This exercise is based on Sihvo's Lax Vox method – a technique initially devised for vocal rehabilitation – which is used in singing because it encourages maximum vocal economy and efficiency, trains the resonant capabilities, and improves control of airflow. This system also enhances proprioceptive development during vocalisation (Manzano Aquiahuatl, 2018).

- Match the register:
  The lip trill, explained earlier, is also used to connect the chest voice and the head voice, and thus work on the continuity of the register.
  Sing the song being rehearsed with continuous legato through a straw inserted in a bottle of water, pronouncing the syllable *buuuuuu*. It is important to observe that the lips are forward when doing this. Then repeat the exercise without the straw, maintaining the position of the lips and pronouncing the same syllable.

b) ***Balance between voices: exercises for listening to the rest of the group***

For the conductor to manage, control and direct the sound of the group and its balance, it is essential that each member actively listens to their colleagues while they are singing. It is very common for choristers to focus solely on their voice and what they are singing, and this prevents them from achieving some elementary things like adjusting their volume to the rest of their range or the choir as a whole, or attempting a more uniform timbre. It is key to bear in mind that, in a choir, we sing with someone, not just alongside someone.

- Standing in a circle, the conductor sings a note and "passes" it to the person next to them, who passes it on to the next one, and so on until all choristers have participated. It is important that no-one stops singing until the next person has started singing so there is no silence, but also that there are no more than two or three people in a row singing at the same time.
- The conductor sings the three notes of a chord (for example, D–F sharp–A) and then all choristers individually choose which note they want to sing. Everyone sings their chosen note when the signal is given and, at the end, they are asked whether they can identify which note the person on their right was singing. Typically, very few were listening and that makes them realise that they are not singing with their fellow choristers, just alongside them.
- Place eight people in a row, one next to the other. Ask them to count from one to eight, each saying a number in order. The goal is to keep the same dynamics, speed, character and timbre while counting; the dynamics, character and timbre are set by the person who says one, but the speed is set by the person who says two.

c) ***Teamwork exercises***

Teamwork is particularly beneficial for developing these vocal categories. A study by Anrie van Rooyen and Andelina dos Santos (2020) concluded that participation in a community choir offered adolescents meaningful experiences whereby they discovered their musical voices, increased their self-awareness, self-esteem and confidence, and developed ways of expressing and regulating emotions. Choirs are also an excellent environment for developing young people's social skills, due to the "constant interaction of their members" (Balsera & Gallego, 2010) that requires everyone's cooperation and solidarity, introduces leadership skills and commitment to activities, and improves relationships beyond the group context. As Barbosa-Bustos (2014) points out, a choir is a team where responsibilities are shared. Understanding is necessary, as is respect for other members, who must be able to listen to each other to achieve better results.

- "Ordered":
  The choristers stand up in the centre of the room and, from then on, are forbidden to speak until the game is over. They are asked to line up in height order, without speaking and without further instruction. At the end of the activity, it is good to reflect on what has happened: did someone take the initiative – putting themselves at one end, as the tallest, for example, or trying to help others to position themselves through gestures? Good, effective teamwork relies on everyone participating and contributing, putting their qualities and ideas at the service of the group. Some take the initiative and others join them or even take a step back because, while a lack of initiative can sometimes paralyse a group, chaos ensues if too many people want to do things their way. A choir is a constant exercise in teamwork.
- "Touch the balloon":
  Choir members are distributed around the room, standing randomly, and pass a balloon that can never touch the ground. The rules state that no-one can tap it twice and everyone has to participate, forcing them to come up with a joint strategy to ensure that the balloon does not drop.

d) ***Tuning exercises***

- With the conductor positioned in front of the choir, sing a note, glissando upwards for approximately a quarter tone and then lower it, guided by their hand rising and falling in the air. This exercise allows choristers to discover gaps smaller than a semitone and facilitates improvements in pitch, although it is very important to take into account that tuning difficulties often arise due to choristers' different vowel placement in the mouth.
- Divided into three vocal sections, the choristers sing a chord with a Twang timbre and move slowly from one vowel to another[5]. They must pay most attention to the harmon-

5 According to Jo Estill (Steinhauer et al., 2017; Salsbury, 2014), timbre is a configuration of the vocal tract that is composed of the active "aryepiglottic" sphincter, larynx, and high soft palate, which usually generates a vocal sound re-

ics that are generated in the changes between vowels. Modifying the position of the lips also helps to highlight some harmonics more than others. The teacher's example is basic in this type of exercise, and we must bear this in mind. When harmonics have never been actively listened to, it is difficult to identify them and it takes time to learn how.

- The choristers stand in a circle and the conductor issues a note and "passes" it to the person on their right. The singing does not stop this time, but rather each singer joins in with those who are already singing. When there are about 10 people singing, the teacher sings another note and then another, which they imitate in the same order as at the beginning, so that chords are formed. In addition to the usual triads, 7th and 9th chords can also be produced, for example.

e) ***Blending exercises***

A choir with a correctly blended sound means that no singer can be heard above the rest of their section and that the pronunciation of the text, both vowels and consonants, is similar among all the members. Before doing any exercise to develop blending, the director must arrange the choristers appropriately in the space, within their section and the choir, taking into account the volume and timbre of each singer as this is essential for ensuring that the group sounds cohesive.

- Perform a piece from the repertoire: divide the group into quartets and give each person a different part, with the ultimate goal of unifying rhythm and pronunciation. An earlier step could be to carry out the same exercise but with only the members of the same section singing.

f) ***Exercises for tackling specific aspects of a piece of music***

- Text:

  Uniformity of the vowel sounds is achieved when all the choristers direct the air into the same area of the mouth and maintain a similar position while singing (lips, tongue, jaw opening and gap generated in the area of the soft palate). This can be improved by changing the vowels without taking a breath in between, on a held note (E, for example) in the following order: UOAEI.

  To achieve even consonants and correct articulation, it is the director's responsibility to clarify where the final consonants of the sentence are pronounced and to ensure that silences are respected. A game for improving articulation could be to read a text aloud while holding a pencil between the jaws without squeezing, ensuring that the tongue is relaxed, and then reading the same text without the pencil.

  Regarding the phrasing, the text of the piece that is being rehearsed can be read with its rhythm and corresponding speed but without the melody, accentuating the places that stand out in each sentence. It is important to suggest that the singers exaggerate signif-

lated to sounds produced by metals such as bells.

icantly because the effect is halved when it reaches the audience.
To work on the pronunciation of a piece that is written in another language, it is helpful if a person who is fluent in that language reads each sentence at their own pace with correct pronunciation, slower than the score indicates if necessary, and the choir repeats it. It is recommended that they mark the correct phonetics of the words that are more difficult for them on the score.

- Timbre / color:
  An individual's vocal timbre is made up of a sound and its harmonics or vocal formants. Physically, this depends upon the vocal cords, the larynx, and the resonant cavities. In a choir, we can modify the collective colour of the voices by playing with different timbres. This is achieved if we use more or fewer harmonics, change the direction of the air or the vibration of some resonators above others, and modify the mouth, lips or jaws, among other tools. We can even make conscious use of the acoustic space for this purpose. Jo Estill organised six vocal qualities called *Sob*[6], *Falsetto*[7], *Twang*[8], *Speech*[9], *Opera*[10] and *Belt*[11], which allow us to categorise timbral differences in singers (Steinhauer et al., 2017; Salsbury, 2014).
  Choristers can play by imitating voices like a witch, a duck, a suspicious man, or a small child so that the different vocal timbres are put to work.

- Emotion/meaning of the text:
  In this exercise, students discover different types of sounds related to emotions. Divide the space into four parts, where each section is dedicated to investigating the sound effects of a different emotion: anger, falling in love, sadness and happiness. All students occupy the space of the first emotion (sadness) and make sounds similar to when they are sad. Later, students describe what the sounds they produce are like, taking into account the tone, air pressure, melodic line, timbre, etc. In this way, they become more aware of the different sound emissions related to vocal performance.
  A variation of this exercise could be for a group of eight choristers to perform a song from the repertoire that they know by heart while walking through the space, still divided into the four emotions. They must adapt their performance to the emotion of the space they

6 *Sob* occurs when the thyroid cartilage is tilted, the glottis is open, and the vocal cords are stretched. It also has a vibrato.

7 Vocal quality in which the vocal folds are held rigid in an effort to keep the glottis closed. This timbre is generally used in the higher registers.

8 During the *Twang*, the vocal tract narrows, generating a powerful and shrill sound that is often nasal.

9 This quality is like spoken sound in everyday life. The vocal tract is open, relaxed and free of tension.

10 The recognizable *Opera* quality combines *Speech*, *Sob* and *Twang*. The use of a high or compressed tongue and a low larynx position, combined with the vibrato, creates this characteristic sound.

11 The *Belt* is a vocal quality generally used in musicals. It is the result of tilted cricoid cartilage, vertical thyroid, larynx and tongue in a high position, and elevated soft palate.

are walking through. There could also be a group of choristers who do not know what the emotions are, and they have to guess by listening to their classmates.

Warm-up focused on choral sound

Finally, we propose a potential complete warm-up aimed at working on choral sound:

- Imitative percussion:
  The director performs four-beat rhythmic patterns with body percussion and the choristers repeat it. It can be done as an accompaniment to a pop song they know, to resonate more with them. The exercise requires silence and this improves attention and concentration, both of which are essential in rehearsals, as well as movement, which we will expand on below.
- Singers' massage:
  Stretch the arms, back and neck freely. Gently place the hands all over the body and face while making free movements with the tongue inside and outside the mouth. In this way, the muscles and joints are activated for singing.
- Breathing:
  From the correct standing position indicated above, drop the head towards the thighs, arch the backs and leave the arms hanging down to the ground. The neck and jaw should be completely relaxed and the knees should not be locked.
- Vocal imitation:
  The director says "Good morning!" in different ways (loudly, whispered, nasally, sadly, tiredly, happily) and the singers repeat it, imitating them. This activates both the voice tract and the resonators.
- Resonance:
  Perform wide glissandos, ascending and descending, with a fricative v.
- Vocalisation:
  We propose a first vocalisation (see Figure 5) that works on the evenness of vowels, and a second (see Figure 6) that trains the high register and in which we can include a little bending of the knees before the highest note in the phrase. In both cases, the repeats will go up and down by semitones, although jumps (wider intervals) can also be made from one repeat to another to train the hearing and avoid monotony.

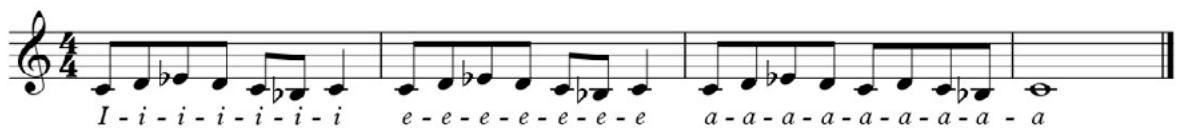

Figure 5. Exercise 5.

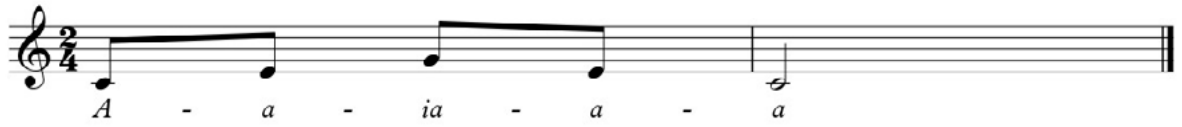

Figure 6. Exercise 6.

Regarding the tessitura of all the proposed vocalisations, we suggest that each chorister sings the notes that they feel comfortable with – that are part of their range. We recommend that boys who are in a period of vocal change do not stop singing during that stage but only sing the notes that come easily to them. This will prevent potential injuries to the voice tract and allow them to stay connected with the choir.

Conclusion

Choral sound in adolescence presents particular characteristics that suggest a series of challenges when working in the classroom. The sudden changes in adolescents' voices, added to the lack of technical mastery, result in great insecurity when it comes to singing and a significant decline in the number of choral singers.

The periodic assessment model presented takes into account different aspects of vocal production and allows the director to gain specific knowledge about the potential and struggles of each young person at the outset, to prevent disorders arising from overexertion. They can then rearrange or restructure the ranges according to the vocal circumstances of each chorister during that period and, finally, pay attention to the choir's weaknesses and insecurities and work on individual and group aspects that help to maintain the group and the desire to continue singing. In turn, young people develop specialised knowledge of each aspect of their own sound, giving them increased awareness, increasing and strengthening their self-confidence, and decreasing their embarrassment when singing because they understand that those changes relate to a given period and each aspect can be trained and improved.

This work serves as an introduction to future research related to the development of vocal, sound and teamwork strategies with adolescents in a choral group.

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The Scope of Children's Listening: Sounds and Images for Auditory Education

Through Cooperative Learning Strategies

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RESUMEN

En este artículo realizamos una puesta en valor de la escucha, como una dimensión principal de la educación musical infantil, para el desarrollo integral del niño y niña. De este modo consideramos la importancia de la atención, de la escucha activa, también en procesos comunicativos y de conocimiento del entorno sonoro; así como la necesidad de la escucha activa en la audición musical, para la recepción musical, además de sus vinculaciones con el conocimiento y recepción de otras formas artísticas y del lenguaje, como se refleja en la legislación educativa vigente. Seguidamente, plantearemos los beneficios del aprendizaje cooperativo para el desarrollo de la escucha, dentro de las habilidades comunicativas necesarias para el trabajo en equipo, valorando las posibilidades de adaptación de esta metodología activa en Educación Infantil. En el último apartado expondremos distintos recursos y actividades, considerando la imagen y los formatos audiovisuales para el trabajo de experimentación y discriminación sonora por parte del profesorado de educación infantil en formación. En este punto, realizaremos propuestas de adaptación de una selección de dinámicas y técnicas cooperativas para educación musical, de manera que las estructuras cooperativas favorezcan el desarrollo de habilidades de trabajo en equipo, mientras se valora positivamente la escucha, también durante el aprendizaje del alumnado universitario, en la implementación de esta metodología que, según nuestra experiencia docente, es posible adaptar en distintos niveles educativos.

ABSTRACT

In this article, I evaluate listening as a core dimension of childhood music education for the all-round development of the child. I consider the importance of attention and active listening in processes for both communication and understanding the listening environment, the need to listen to music proactively for musical understanding, as well as their connections with knowledge and interpretation of other art forms and language, as reflected in existing educational legislation. Next, I present the benefits of cooperative learning for listening development as part of the communication skills needed for teamwork, evaluating the scope to adjust this active methodology in children's education. In the final section, I set out various resources and activities, considering image and audiovisual formats for trainee teachers in children's education when experimenting with and differentiating sounds. On this point, I make adaptive proposals for a selection of cooperative techniques and dynamics for music education, such that the cooperative structures favour the development of teamwork skills while listening is positively assessed (in university students' learning too) in the implementation of this methodology that my teaching experience has shown can be adapted to different educational levels.

The importance of auditory development and listening in early childhood education: introduction and theoretical basis

In music education, we refer to the auditory development of students as the starting point of the teaching-learning process, as it encompasses conscious listening or attention on the part of students, which is the basis of any learning in the classroom (Díaz González, 2017). Similarly, as Maravillas Díaz-Gómez (2005), among other authors, has pointed out, musical activity is an optimal means for hearing development in children's all-round development. Likewise, the importance of listening for musical understanding is key in the sensitisation and openness of the individual towards the world of music and sound. To this end, enquiry into the sound potential of children's environment is promoted at an early age, also based on their opportunities to produce sounds, for example through free play (Ciurana & Alsina, 2019). Perceiving and identifying the qualities of the sound environment becomes a pathway to musical appreciation, bearing in mind that, at around age seven, with the transition to the concrete operational phase of cognitive development, we can refer to the development of a child's aesthetic appreciation of music while gradually integrating the use of conventional musical writing signs in learning (Lacárcel, 1995).

From an early age, auditory development can be considered sensory training that allows children to enhance their intellectual development. This is part of a cognitive process supported by experience and memory that facilitates the internalisation, interpretation and understanding of the auditory experience through the recognition of the qualities of sound objects, and with the purpose of recreating meaningful structures that allow them to "relive the experience" (Alsina, 2002, p. 102). This is connected with the shaping of the collective sound imagination, insofar as human beings are able to recall sensations, concepts or visual representations through sound. As I noted above, sensory perception, along with hearing, allows the individual to identify sound elements and recognise what is happening around them while encoding a series of signs.

In this regard, the cognitive processes involved in auditory education – in terms of the meaningful articulation of elements and symbolic construction based on memory processes – are joined by a social praxis that is equivalent to "the set of meaningful everyday practices in which subjects performatively reproduce the wide-ranging memories of the culture" (Ricaurte, 2014, in Romero-Moreno & Palmett, 2015, p. 35). In this sense, the formation of the collective sound imagination enables representations of reality, which imply being able to intervene in the world and reproduce actions that sonically identify objects and spaces. Thus, the formation of the collective sound imagination would enable the individual to participate in a permanent social construction, guided by one's own collective life and previous cultural practices; thus, according to some authors, the latter will in turn determine the shaping of the collective sound imagination (Romero-Moreno & Palmett, 2015).

These approaches should be taken into account in early childhood music education, in parallel with the development of toddlers' confidence, autonomy and initiative, in line with

Erikson's psychosocial phases, among other aspects of psychosocial theory referred to by Felipe and Manuel Gertrudix (2011). It is no surprise that various authors defend the progression of learning in music education, from auditory development – which, in short, goes through perception and auditory discrimination – to memorising and then reproducing sounds and music using various means, such as the body itself, sound objects, musical instruments and the voice (Cremades, 2017).

Botella-Nicolás and Peiró-Esteve (2018) provide an interesting overview of studies that highlight the value of auditory stimulation at an early age for developing attention, concentration or memory; auditory perception is "one of the ideal skills to stimulate [...], by means of sound differentiation, as it is one of the first skills that begin to be acquired in early childhood, even before birth" (p. 3). In this sense, I consider auditory perception in direct relation to listening, as a conscious psychological attitude that involves voluntarily selecting some sound stimuli and discarding others. The first thing, then, is to learn to listen if sound, like gesture or image, is a means of access to any learning. Auditory discrimination also involves identifying sounds and sound parameters, which is what our auditory memory registers after recognising the sound characteristics.

Thus, at this point, the sensory listening phase noted by Sanuy (1996) is overcome by means of perceptual and also expressive implications, both for listening and for interpretation as sound and musical reproduction. In this way, progress is made from a sensory stage of physical or motor response to any sound stimulus. In early childhood education, pupils are encouraged to explore sounds and the sources of sound production. It is with good reason that the perception and identification of the qualities of sound become a bridge to musical appreciation and, later on, to the analysis of elements of musical works. According to Willems (2001), a child's aural preparation is of particular importance, as it allows the child to approach all kinds of musical elements. All this also connects with active listening as proposed by Wuytack (1998), as pupils cannot respond to a sound and musical event without paying attention. Similarly, Pascual Mejía (2006) considers how listening at an elementary level must be active for children to differentiate between basic musical parameters, such as rhythms, accents, melodies or timbres. As the author explains, it is important to make it easier for pupils to experiment with sound while awakening their interest in reproducing sounds, familiarising them with the melodic field, developing their auditory memory, and calling upon their auditory imagination so that the latter is stimulated. This enables children to create and improvise, while the teacher enhances their sensory, affective and mental awareness of the world of sound.

Let us now consider how the enjoyment of music will also depend on auditory perception, if we understand this to be the ability to compare sound events organised in time, both consciously and unconsciously. This connects with other phases of hearing development mentioned by Sanuy (1996), from sensitive to analytical listening, or from the descriptive plane referred to by Wuytack to the musical plane, finally recognising different sound and musi-

cal parameters. In these processes, it would be important to generate listening habits in children, or the habit of conscious listening, while teaching them to listen by listening. It is with good reason that the current regional regulations propose, in the basic knowledge of the area of Communication and Representation of Reality, the "understanding of the world and messages through active listening" (Decree 56/2022, of 5th August, Government of the Principality of Asturias, p. 26). All this will also help to increase pupils' curiosity towards new sounds and musical phenomena, and their willingness to remember listening experiences.

Thus, the ear should regain its status in a culture that is today fundamentally visual to balance the sensitivity and participation of the senses, as defined by Palacios (1993). This question will be important for developing pupils' aesthetic-musical sense while encouraging them, over time, to approach different sound manifestations and expressions and musical styles, with the aim of enriching their musical artistic baggage in a process that should begin at the toddler stage, as current educational regulations indicate.

This said, it is also important to transmit healthy habits to pupils in terms of hearing and ear care, also taking into account the widely studied harmful effects that noise pollution has on health, both on a physical and a psychological level, also in relation to children. Toddlers must discover the sound environment around them, being sensitive to the effects of noise pollution, if we follow Schafer's (2013) ideas about ear cleaning or the differentiation of soundscapes with different sound definitions. As Alfonso de Esteban Alonso (2003) points out, there are sources of noise pollution that, at high noise levels, are capable of damaging the ear, and other sources that, even at lower levels, affect the psychosomatic health of the individual and their relationship with life. I assessed these issues in the "Como convivo" project, which I implemented in a preschool and primary school in León (Díaz González, 2022) in order to design an intervention to reduce noise levels in the school environment and raise awareness in the educational community about the effects that high noise levels can have on health. I aimed to improve coexistence in the school canteen without affecting activity, while contributing to the wellbeing of students and monitors.

As Hernández Bravo et al. (2011) point out, it is also necessary to keep in mind how "activities to train the musical ear must follow the principle of totality" (p. 172), relating to other areas of music education, such as performance through singing, the body in movement, or musical instruments (Cremades, 2017). Concerning the methodological principles in the early years classroom, we should not forget that the first musical experiences are acquired through the voice and singing, with the latter being a basic pillar in the educational-musical work of primary education, which should begin at an early age with the discovery of the expressive potential of the voice (Díaz González, 2020).

Listening also appears transversally in different areas of children's knowledge in the new Organic Law 3/2020, of 29th December, which modifies *Organic Law 2/2006, of 3rd May, on Education (LOMLOE)* published in the *Official State Gazette* on 30th December 2020. It

includes attentive listening as a behavioural habit in the classroom, in accordance with the above, and a strategy to be developed to ease communication settings, promoting values of equality and respect, in relation to linguistic development in which the approach to children's literature is also valued through listening to songs and stories. Active listening is also observed through play and experimentation, as well as the enjoyment of listening to music. I will return to these issues in the next section.

In this work, I begin by highlighting listening as a main dimension of children's music education for the intrinsic development of the child. Thus, in this section, I consider the importance of attention, active listening (in communicative processes too) and listening to music, for musical understanding, as well as its links with knowledge and interpretation of other art forms and language, as reflected in current educational legislation. In the next section, I will consider the benefits of cooperative learning for the development of listening, along with the communicative skills necessary for teamwork, assessing the possibilities of adapting this active learning methodology to early years education. In the last section, I will present different resources and activities, considering image and audiovisual formats at an educational level, for experimentation and sound discrimination work by early childhood education trainee teachers. At this point, I will make proposals for adapting a selection of cooperative dynamics and techniques for music education, so that cooperative structures promote the development of teamwork skills such as listening, and also for university students implementing this methodology.

The potential of cooperative learning for developing students' listening and social skills: methodological bases

ECooperative learning is not only a method that facilitates the teaching-learning process but also a skill that students must develop (Pujolás, 2008). Therefore, we must teach students to work cooperatively, starting in early childhood education (Moruno, 2017). This involves, first and foremost, the development of pupils' cooperative skills, enabling them to work as part of a team. In this way, we cannot expect pupils to work in teams without first developing teamwork skills and, of course, without them valuing the benefits of cooperation, both for their personal development and for their classmates.

In previous research on the application of cooperative learning in music education at university level, I set out to identify the students' skills and practices that should be emphasised to effectively develop teamwork (Díaz González, 2021), which is related to the ability to cooperate that authors such as Zariquiey (2016) have discussed. Thus, I considered deepening students' experience in teams, while checking the extent to which the objectives and effective work among the research participants were being achieved. Listening was an essential interpersonal skill for students, considering four categories corresponding to characteristics of cooperative learning: positive interdependence, interpersonal skills, equal participation, and the individual responsibility of the members of the core teams.

These aspects must be in place to ensure cooperative work, together with information processing between individuals – insofar as learning is personal and untransferable – but in connection with group objectives, when learning has to be orientated towards growth objectives as a group. Moreover, a team must give all its members the chance to participate equally (equal participation), as well as giving them equal opportunities for success. These questions complete the characteristics of cooperative learning, according to the methodological bases I use in my work, following Iglesias, González and Fernández-Río (2017) for a structured and effective implementation of the methodology.

Cooperative learning can be defined as the didactic use of small groups in which pupils work together to maximise their own learning and that of others in their team, as defined by Johnson and Holubec (1999). Thus, among the characteristics mentioned, positive interdependence stands out, implying that students support each other and help each other to learn both more and better. In this sense, a learner will only achieve their goals if others achieve theirs as well. In this respect, positive interdependence helps to develop a higher level of individual responsibility among the members of the cooperative group, as the team sets common goals or objectives. The interaction from each member of the team to promote these things serves the group, as students simultaneously develop a series of social skills related to communication, cooperation, support and mutual help, which are fundamental for teamwork.

For all these reasons, teamwork or cooperative group work is distinguished from traditional group work in the following way. Unlike the traditional group, there are no leaders in a team and the responsibility for learning is shared among the group members, which must be heterogeneous if we are referring to stable or base cooperative groups (the teams that are going to last over time), with positive interdependence among the members. However, in a traditional group, responsibility is often unequal, with consequent conflicts in carrying out work when internal group organisation is missing, with certain leaders or students taking responsibility for other colleagues. As in traditional group work, there will be group evaluation in the cooperative group as well as individual evaluation (Iglesias, González & Fernández-Río, 2017).

It is important to clarify that cooperative learning advocates that each student should reach the maximum of their abilities, but this does not mean that all pupils have the same abilities. Nor does it mean that they will develop the same, equally high capabilities. As an inclusive methodology, cooperative learning defends pupils' diversity and heterogeneity at all times and places value on their differences (Abad & Benito, 2006). In this sense, cooperative learning is considered to improve the classroom climate as a safer place for students to learn; they ask for help, express their needs or can reveal their weaknesses while establishing more positive relationships with their peers (Martínez, 2021). To this end, the group cohesion dynamics of the first phase of cooperative learning will be fundamental, while teamwork in later phases can provide a safer environment that encourages the participa-

tion of all students (Iglesias, González & Fernández-Río, 2017).

Cooperative learning has also been shown to improve academic performance and help students acquire greater learning autonomy, which makes teachers' work easier; for this to happen, students must know about cooperative structures and how to work cooperatively (Díaz-Aguado, 2018). In this way, time spent teaching pupils to work cooperatively, having previously developed personal teamwork skills, will be time well invested and will be earned back as they achieve greater learning autonomy.

All in all, this methodology encourages interrelation between pupils, which is important for developing intellectual skills that require other people, such as when it comes to arguing an opinion, responding, and summarising... Piaget had already noted how the socio-cognitive conflicts that could be generated in cooperative learning could lead to the restructuring of pupils' learning. Thus, it is necessary to assess how, in contrast to individual learning, for example, cooperative learning helps to develop skills in pupils that are necessary for living and coexisting with others as members of a society. But this is only if cooperative learning is implemented in a structured way, starting with encouraging the development of communicative and social skills (which enable students to get to know each other) and their ability to reach a consensus, helping them to avoid conflict. To this end, Iglesias, González and Fernández-Río (2017) propose a structured implementation of cooperative learning in several phases. The first phase includes group cohesion dynamics and dynamics to raise students' awareness of cooperative learning, with the belief that students want to work cooperatively.

In this first phase, therefore, the first thing to do is to create a group; to this end, while the curricular contents of the different areas and subjects are being addressed, strategies and dynamics can be implemented aimed at achieving greater cohesion within the group. These would be dynamics to favour interrelation, mutual knowledge and relaxation within the group; to increase mutual trust; to encourage debate and the contrast of ideas; to try to achieve consensus in making certain decisions; to facilitate participation; to learn to resolve conflicts in a negotiated and cooperative way; and to eradicate prejudices, favouring a positive idea of difference, in support of pupil diversity. Thus, time should be devoted to group building, on the one hand, and to developing activities to raise awareness of the importance and benefits of cooperative learning, on the other, as it can help students to learn and feel good in the classroom. The aim is to emphasise positive interdependence, trying to show clear evidence of the advantages of cooperation (La Prova, 2017). In this first phase, it will be essential to focus on active listening, in order to respect turns to speak, to have the opinions and explanations of other colleagues taken into account, and also to be able to reach a consensus in the team.

In relation to these issues, the importance of silence is also established as a necessary element for communicative processes, as stated in the regulations for the first area of Early Childhood Education, Communication and Representation of Reality, in which silence is

included in the block of basic knowledge related to musical language and expression, together with sound and sound qualities (*Decree 56/2022, of 5th August*, Government of the Principality of Asturias). Not surprisingly, the positive valuation of silence by children is emphasised at an early age (Cremades, 2017), as it connects closely with communicative processes through different expressions and languages, as well as with auditory discrimination, and with other issues such as relaxation for educational purposes in early childhood.

Following on from the above, music is understood in the aforementioned decree as a language that "allows communication with others and enables the development of aspects such as attentive and active listening, sensitivity, improvisation and enjoyment through the voice, the body itself or games for developing motor and auditory skills" (*Decree 56/2022, of 5th August*, Government of the Principality of Asturias, p. 21). This is the idea of music as a means of communication and expression through artistic language, which will also continue to the next stage of primary education through the development of different means of sound and musical expression. The communicative value of music is thus emphasised while music education encourages active listening, which is also highlighted in other aspects regarding pupils' communication and interaction, through the development of "strategies that facilitate exchanges in communication settings that promote respect and equality: eye contact with the speaker, attentive listening, turns for speaking, and alternation" (Decree 56/2022, of 5th August, Government of the Principality of Asturias, p. 26).

Active listening is also taken into account when recognising children's sociocultural diversity, alongside considering activities that can involve different types of languages. These issues are linked to teamwork in the Growing up in Harmony area, as the specific competencies state that "recognition and appreciation of the sociocultural plurality of the classroom should be encouraged through activities and games that value different customs and traditions and favour assertive communication of one's own needs while listening actively to those of others in co-educational and cooperative processes" (*Decree 56/2022, of 5th August*, Government of the Principality of Asturias, p. 12). Considering that the specific competencies of the new law link to the key competencies of each stage, we can see that teamwork and cooperation between pupils are already valued in early childhood education through competencies such as Personal, Social, and Learning to Learn, among others, helping each pupil to achieve greater autonomy in their learning, work with others, cooperate fairly in interactions, and develop as a person.

In view of the above, it seems necessary to consider the possibilities of cooperative learning in early childhood education, bearing in mind that this methodology is closely linked to other methods such as Project Based Learning, which is largely supported by the new LOMLOE. Teachers such as Luisa María Jorge (2017) have implemented cooperative learning in early years classrooms, highlighting the methodology's benefits for various purposes: working on social interaction strategies such as personal self-management skills; de-

veloping emotional intelligence and self-esteem in social settings; promoting meaningful learning – in line with Ausubel's evaluations of teamwork – which the author links with learning through discovery, when referring to the meaningful construction of learning; and fostering children's motivation. Family activities (workshops and storytelling, for example) are also important as a means of fostering knowledge of, involvement in and awareness of cooperative methods, not only in schools but also at home.

In this way, different authors propose the adaptation of cooperative learning structures in early childhood education, as well as the implementation of simple techniques typical of the second phase in the implementation of cooperative learning (Iglesias, González & Fernández-Río, 2017). Thus, a series of techniques or structures are used, and these are then applied to work on the specific contents of any area of the curriculum in such a way that they generate a need for collaboration and help among those involved in the teaching-learning process. Simple techniques are learning activities of short duration that are easy to learn and apply. However, not everything that purports to be a cooperative structure is actually cooperative. In order to be truly cooperative, two basic conditions must be met: the active and responsible participation of all learners in the team must be ensured to the maximum extent possible, and there must be as much interaction as possible between learners in the same team. Interaction between peers in the joint construction of knowledge, as I have been explaining, is essential in the teaching-learning process for the development of skills such as listening.

In the structured implementation of the methodology, there is still a third phase, with the adaptation of complex techniques, which already need several working sessions and require a high level of cooperative skills and great autonomy on the part of the base teams, which will have been formed at the beginning of the second phase (Iglesias, González & Fernández-Río, 2017). Bearing this in mind, I will here make proposals for adapting the dynamics and techniques of the first and second phases, respectively, considering that the third phase may not yet be suitable for application in early childhood education, but rather in subsequent educational stages. Furthermore, it is necessary to consider the time constraints of semester-long modules in higher education, in order to reach the third phase of cooperative learning where, according to my teaching experience, university students are not used to working in teams either.

Cooperative strategies and audiovisual resources for auditory development for early childhood trainee teachers

To support early childhood education trainee teachers, in this section I propose different adaptations of simple cooperative dynamics and techniques (from the first and second phases of cooperative learning) related to listening and their involvement with the discovery of the sound potential of the environment, the discrimination of the sound potential of sound objects and musical instruments, the appreciation of the expressive potential of one's

voice and that of others, the recognition of sounds of different qualities, and the expressive and communicative potential of sound as a support for the meaning of children's texts, as well as images.

With the adaptation of cooperative dynamics and structures (according to the bases set out by Iglesias, González & Fernández-Río, 2017), I aim to ensure participation and interaction among students so they develop social and communicative skills, which prepare them for the cooperation expressed in previous sections. In the following proposals, I consider the usefulness of different visual resources and audiovisual formats in the educational context to support auditory work. It should also be borne in mind that many of the activities I propose below can also be adapted for use in the early childhood classroom, with a view to involving families in cooperative learning.

- "The orchestra staff" (adaptation of the awareness-raising dynamic, "El equipo de fútbol"), with the text for student sharing that I previously contributed to the manual published by Pirámide (Díaz González, 2017). Based on the text, which introduces the importance of the different roles of the sections of musicians that make up an orchestra, I created parallels with a classroom with a cooperative structure. Random teams of four students have to reflect on a text under the guidance of the teacher, recognising different families of instruments and familiarising themselves with the functioning of a symphonic ensemble, in order to achieve the final group incentive, which in this context would be the concert. To this end, in early childhood education, I propose complementing this material with audiovisual bits[1] for the visual and sound recognition of different musical instruments[2]. It is important for pupils to be able to assess how the sound and visual elements are articulated in this type of resource, according to their pedagogical objectives in the classroom, bearing in mind that the name of the objects may or may not appear visually, their sound may appear before or after the image or the name that represents them, the sound quality may not be the most suitable, etc.
- "Each sheep with its sound partner" (adaptation of the group cohesion dynamic, "Los Refranes"). I prepared pairs of cards with graphic representations of sounds with different characteristics, following the proposals for non-conventional sound graphics by Palacios (1993) and for the identification of sounds and objects by Musicaeduca[3], among other proposals, such as the *Suena Suena* method by Huidobro and Velilla. For example, a proposal for a graphic card would be five circles drawn in different sizes, from larger

1 Recall that intelligence bits are units of information, visual information cards that constitute a method of early stimulation devised by Glenn Doman, based on the repetitive visualisation of (and listening to) these bits. The technique consists of using a precise illustration or drawing, or a good-quality photograph, accompanied by an auditory stimulus, which consists of saying aloud what it represents. With today's audiovisual media, we have videos and even interactive games, which allow the addition of other auditory stimuli for the recognition of certain sound-producing objects.

2 See, for example, https://www.youtube.com/watch?v=_gyXmNXK4aI among numerous videos that can be found for this activity on YouTube. Accessed 18th September 2022.

3 See https://www.musicaeduca.es/recursos-aula. Accessed 18th September 2022.

to smaller (representing five sounds of different intensities, from louder to softer) and placed from bottom to top (to distinguish different pitches, from lower to higher). Pairs of pupils should meet only to reproduce the sounds vocally (without showing the cards). Afterwards, the pairs should discuss and reach a consensus on the sound qualities represented, and then explain them to the class group.

This would be the step before the creation of model sound itineraries to be taken to the early childhood classroom in random teams of four. Each member of the team should take responsibility for representing one of each of the four qualities of sound (pitch, duration, timbre and intensity) and together they should come up with the necessary methodological strategies to bring the resource to the classroom for children's participation. The idea is that the children can follow the sound itinerary (see, as an example, Figure 1) while other children make the sounds, allowing for the sound characteristics of the diversity of sound media that can be used in the performance (the voice, their bodies, toys, other sound objects, or even DIY instruments or musical instruments).

Figure 1. Sound-graphic itinerary produced by 2nd-year students on the Degree in Early Childhood Education at the University of Oviedo, in the 2022–2023 academic year.

- "Vocal effect maps" (group cohesion dynamic, to encourage work in pairs). This dynamic is inspired by Schafer's proposals for vocal and auditory education. The idea is to group students in pairs to interpret a succession of vocal sound effects which, when collected visually on a sort of map (using drawings, words or photographs), correspond to different feelings, emotions, objects or situations (e.g. anger, laughter, joy, doubt, surprise, pain, a bee, a fall, etc.). The idea is to rediscover the expressive potential of the voice while calibrating its full range; in this respect, it can be used as a vocal warm-up activity

before singing. Thus, the map is first reviewed individually and the partner is consulted if ideas are needed for the vocal performance of some points. For the performance, the game "The director and the performer" is proposed, so that one of the students can indicate different points on the map that their partner must then reproduce. The roles are swapped. The activity ends with the incorporation of new sound effects, by consensus between each pair of students, which will be shown to the class.

- "The emotion that moves us" (adaptation of the group cohesion dynamic, "Desfile de modelos"). In this activity, I propose relating music with movement and silence or absence of music with stillness or stopping, to distinguish silence from sound using movement with displacement (along the lines of such well-known activities as "Statues"). In this case, we will select soundtracks that allow students to relate the music of different scenes from well-known films to different emotions in an expressive way, using free movement through the space. Thus, I propose that students first move without the visual reference, to then visualise the film scene, so that we can refer to the musical characteristics by pooling the emotions in order to help children to recognise and manage their own emotions and to distinguish those of their peers. Some suggestions for themes for this activity, including how music can influence not only the transmission of emotions but also their transformation, are: I Wish, a song by Stevie Wonder included in the film *Happy Feet* (happiness); *Remember Me*, a song from *Coco* (sadness); or the main theme from *Jurassic Park*, by John Williams (surprise).
- "The piano factory" (adaptation of the awareness-raising exercise "En un taller de carpintería"). A text to be adapted and completed by the teacher[4] gives examples of how to work individually or in a team, which can be used in the class. This adaptation can also be used to work on musical instruments and their characteristics, the orchestra, or instruments of different musical formations and styles. It can also be presented as a gateway to a "lutherie workshop", for manufacturing homemade instruments from disposable and everyday objects (Figure 2)[5]. This type of activity can involve the pupils' families if carried out with young children. The wide range of materials for creating DIY instruments (see Figure 3) also allows students to delve deeper into the sound potential

4 The beginning of the text could be as follows, to implement the dynamic: "In a piano factory, there are times in the manufacturing process when each worker or craftsman completes their work in different rooms; at other times, the work is done as a team, such as when building the wooden sounding board. In addition, when someone in the team needs help because the task is difficult, such as when refining the edges of the instrument, other colleagues help them with it. When a worker learns a technique or a new procedure, they teach it to others so that the work can be done efficiently together [...]". I suggest using videos such as the following about the construction of a piano in a complementary way, according to the teacher's adaptation and the teaching objectives: https://www.tecnopiano.com/blog/construccion/#tab-con-12. Accessed 18th September 2022.

5 In this teaching activity, we introduce students to projects such as the Orquesta de Instrumentos Reciclados de Cateura, in Paraguay: an orchestra made up of young people at risk of social exclusion, from the areas near the largest landfill in Paraguay. At the beginning of this project, we highlight the work of Paraguayan musician Luis Szarán, who created the "Sounds of the Earth" project to bring music to the country's most disadvantaged populations through the creation of free schools. See, also as a classroom resource, https://www.youtube.com/watch?v=7AOnZb7ZlJI. Accessed 18th September 2022.

of sound objects, depending upon their physical characteristics and the means of handling them for sound activation.

Figure 2. A pan flute – an example of a complex DIY instrument made by 2nd-year students on the Degree in Early Childhood Education at the University of Oviedo, in the academic year 2021–2022.

Figure 3. A güiro – an example of a complex DIY instrument made by 2nd-year students on the Degree in Early Childhood Education at the University of Oviedo, in the 2021–2022 academic year.

- "We add sound to texts in a team" (using the simple technique, "El folio giratorio"). Elaborate DIY instruments, with all their sonic possibilities, can be used to add sound to children's texts. For example, adding sound to a story involves incorporating sound effects that are descriptive, expressive, and identifying to aid comprehension[6]. To do this, the teacher can propose a selection of images for which the pupils, in teams, must develop the text of a children's story, to which sound effects will then be added. The text can be

6 See an example of a children's story with sound, made by a group of students on the Teaching Degree in Early Childhood Education, from the 2021–2022 academic year. It is hosted on the music education channel that I created within the framework of the teaching innovation project "Online television in teacher training: a multilingual and multidisciplinary educational resource" (UO, PINN-18-A-022): https://www.youtube.com/watch?v=xpd5YYD- Ya4. Accessed 18th September 2022.

created progressively by teams of pupils, allocating different scenes to each team. In this way, each team creates the text with the ordered participation and involvement of its different members, using a sheet of paper that is passed along, to include the contributions of each member, without skipping a turn. I recommend that the teams exchange the instruments among themselves, if they have created different ones, to extend their research into the sounds of the objects while encouraging care for their own and other people's things, which is also applicable in the early years classroom.

- "We are Foley artists" (using the simple technique, "Lápices al centro"). This year, we proposed that the university students design sound for moving images, through a selection of film scenes (such as when Chaplin meets the young violet girl from City Lights)[7], highlighting the profession of Foley artists in cinema, encouraging sound experimentation with different types of sound sources. It should be noted that, in other years, we proposed designing sound for still images, to use sounds produced by groups of pupils to recreate images of everyday situations, landscapes, pictures of artwork, etc. In order to organise the sound of the scene, I propose that the technique be carried out in teams with the ordered participation of team members. In contrast to "El folio giratorio", in this technique, the student will write down his or her idea for the sound system only when each contribution is discussed and agreed upon with the other team members.
- "Cooperative gestured song" (using the simple technique, "1-2-4"). Work on songs, to which gestures are added based on the text (which also involves auditory work), by matching the movements to the rhythm and progress of the lyrics of a piece. To organise the search for and selection of gestures for the performance, I propose the "1-2-4" technique whereby each pupil first thinks individually about a proposal for gestures, which they then present in pairs with another member of their team. The team then reaches a consensus together on the most appropriate gestures for the song, always considering children's participation in the performance.
- "We accompany songs" (using the simple technique, "El grupo nominal"). Instead of the teacher proposing a rhythmic accompaniment for a piece with small percussion Orff instruments of indeterminate pitch, I suggest that the pupils should make proposals for accompaniments in the form of an ostinato. To do this, we can use the technique "The nominal group", so that each team decides on a rhythmic ostinato by consensus; the pupils then vote on the different contributions, so that the ideas proposed by the group are ranked in order of importance, and the rhythmic ideas with the highest number of votes are selected. Afterwards, I suggest dividing the class into groups to perform the selected ostinatos, working on the musical form with a specific accompaniment for each part of the piece according to its structure. By way of rhythmic dictation, the students should then write down the musical rhythms to clarify the figures and rhythmic combinations that were performed.

7 See the film scene at https://www.youtube.com/watch?v=8gqDogrErps. Accessed 18th September 2022.

Conclusion

The cooperative learning methodology strengthens the development of communicative skills in students who must learn to work in teams at different educational levels. With learning processes that involve interaction between pupils, listening is a fundamental aspect for enabling them to work cooperatively within a diverse group, making the classroom a more inclusive, safe and suitable space for learning. Music education favours listening training, insofar as listening education also connects with different dimensions of musical expression, while music is presented as a communicative medium for pupils from an early age. I have also evaluated the importance of active listening for musical understanding and the shaping of the collective sound imagination, with its sociocultural implications.

Thus, music education can promote the development of the personal and social skills necessary for teamwork, with group performance and respect for the contributions of others to sound and musical practice, or the positive valuation of silence for communicative processes. But cooperative learning can also foster skills that are important in music education, such as listening, respect for the contributions of others, or mutual support to achieve common goals, such as the group performance of a piece or musical exercise. In this sense, the design of activities through the adaptation of cooperative dynamics and techniques, also with the support of images for a structured implementation of the methodology, can improve the teaching-learning processes of students in music education. This will help them to develop skills that will facilitate working better with others, respecting differences and the value of consensus, being more autonomous in learning and, in short, helping teachers to train more competent students.

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