

Teaching from the Music Stand: Development and Achievements of Orchestral Work in Schools

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ENG Abstract: Orchestral work with bow instruments, both inside and outside the school environment, has been widely recognised for its twofold artistic and socio educational function. However, its implementation in schools in Spain is still limited compared to other musical groups, such as school choirs and instrumental ensembles where students learn to play the recorder, Orff percussion or the ukulele. This case study analyses the *Planters* project, developed during nine academic years in two state schools in Girona (Spain) devoted to early childhood education and primary education. Specifically, observations and sampling were carried out during two terms of the 2023/2024 academic year. The research focused on two main questions: (1) How is a string orchestra project organised in a school environment marked by sociocultural and educational diversity? and (2) How do students benefit from this activity in terms of learning outcomes and experiences? To answer these questions, a qualitative analysis was carried out on the basis of systematic observation of the rehearsals, the study of the repertoire and the teaching methodology. It also included an assessment of the educational benefits and the organisational challenges of the project. The reliability of the analysis was confirmed by data compilation, codification and triangulation, which combined three sources of information: direct observation, surveys addressed to the orchestra teachers and interviews with the participating students. The results show a significant impact on school identity, a high involvement of students and their families, as well as the need for organisational and institutional support to sustain the project. The most outstanding achievements include a stronger sense of community, the development of collaborative skills and an improvement in the school climate through an inclusive musical education. Finally, the viability of replicating this model in other educational contexts is discussed, highlighting its potential to integrate musical training in school and foster social cohesion through orchestral work.

Keywords: inclusion; musical education; instrumental ensemble; orchestral work; primary education.

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1. Introduction

The organisation of children's orchestras in schools constitutes both an organisational challenge and a source of transformative learning for participants within the framework of inclusive, community-based music education (Quiroga-Fuentes & Ángel-Alvarado, 2020). As in any large-scale project, initial obstacles include the need for funding, scheduling, the suitability of spaces and the care of musical instruments. Pedagogical considerations also come into play as regards the repertoire, participant profiles, operational rules and guidelines, and pedagogy of rehearsals.

Student participation in a school-integrated orchestral project is an exceptional opportunity for growth within the everyday educational environment, providing them with transformative individual and collective experiences that they could hardly have engendered independently (Alsina et al., 2020). Such projects

are often instigated by the schools themselves, local governments or other external organisations, and they reshape the pedagogical identity of these schools and generate new educational spaces marked by participation, inclusion and interdisciplinarity (Sierra, 2018).

This article analyses a school orchestra project developed by *ConArte Internacional* in Spain, a non-profit organisation inspired by its Mexican counterpart. The association began its activities in the province of Girona (Spain) in 2014. From among a dozen schools where artistic projects (music, dance, theatre) are implemented, two schools with string orchestras (violins and cellos) operating within the same pedagogical framework were selected for this case study.

The study focused on (1) organisational challenges (choice of repertoire, session organisation, collaborative work, and the twofold role of students as performers and audience) and (2) the evaluation of individual and collective outcomes. The research goals were as follows:

Goal 1 – Analyse the organisation of the *Planters* project, consisting of string orchestras set up at two schools devoted to early childhood and primary education.

Goal 2 – Describe the development of the orchestral sessions and the orchestra teachers' pedagogical approaches.

Goal 3 – Evaluate student learning outcomes and experiences generated by the project.

2. Theoretical background

The literature indicates that instrumental learning in schools not only provides students with an enriching experience but also enables young performers to identify themselves as authentic musicians within an inclusive, equitable environment (Moscardini et al., 2013). Instrumental teaching in primary education is not limited solely to the acquisition of technical skills; it also fosters artistic sensitivity, teamwork and creative expression. In this sense, the knowledge and mastery of musical instruments, including the exploration of their characteristics and expressive possibilities, plays a key role in the arts curriculum. Learning an instrument promotes musical autonomy, aesthetic sensibilities and the development of fundamental cognitive abilities such as memory, coordination and concentration (Hallam, 2010).

From a socio-educational perspective, group music performance transcends technical skills to become a meaningful social practice (Solís, 2021). This musical format is defined by a dynamic of interdependence, where each member contributes their knowledge, abilities and talents, thereby generating a collective process that integrates technical, aesthetic and socio-affective dimensions (Campayo-Muñoz & Cabedo-Mas, 2017). In this context, playing in an ensemble fosters collaboration, active listening and respect for diversity because students learn to synchronise with the other musicians, adapt to different roles and value individual contributions within a framework of collective construction of musical knowledge (Moscardini et al., 2013).

Several studies also highlight that instrumental learning in schools has a positive impact on students' socio-emotional development. Making music in a group strengthens self-esteem, the sense of belonging and communication skills, while providing a channel for emotional expression and creativity (Saarikallio & Baltazar, 2018). Thus, instrumental teaching not only plays a pedagogical role within the school curriculum but also acts as a vehicle for integration and the construction of identity and emotional well-being during childhood.

The music classroom becomes a space for both education and socialisation through collective performance, which teachers facilitate by mobilising pedagogical strategies (Solís, 2021). Consequently, music lessons promote proposals that enable students to express themselves through instrumental performance and improvisation, both individually and in groups, thereby contributing to their creative development and fostering a collaborative attitude (Linari et al., 2022). This approach creates spaces of social cohesion in which collective music-making helps to build up an atmosphere of respect and solidarity. As stated by Nunes (2015), orchestral learning for young children and adolescents provides a rich and complex learning environment, where the interaction between social and musical spheres actively fosters new competencies that contribute to students' holistic development (intellectual, aesthetic, behavioural, socio-affective, etc.).

Group instrumental study also generates educational values that affect individuals in a particular way. Ferrer (2009, p. 35) states that "children and young people who are members of a choir or orchestra receive training in matters of discipline, order, stimulation, effort, rigour and sensitivity. They learn to share and listen, to organise themselves, and to respect one another." This collective sense of musical activity is a way of making, sharing, understanding and enjoying music (Oriola et al., 2018). As underscored in the literature, instrumental ensembles should therefore be considered an ideal setting for applying strategies that foster relational and socio-affective values through musical experience (Capistrán & Reyes, 2020; Díaz & Pérez, 2016; Ferrer et al., 2018).

Regarding these values, which are generally intangible, musical experience as a shared activity in educational contexts builds up empathy among the participants and reinforces community bonds (Tamayo, 2017). These benefits can be generalised to include community arts projects and other initiatives within and outside formal educational settings (Grané et al., 2017). Furthermore, Krause et al. (2018) report that the educational dynamics and interpersonal communication developed during rehearsals support students' intellectual, spiritual, social and professional growth. In this learning context, "the teacher must assume responsibility for ensuring that students appreciate, understand and enjoy music, while progressing in the individual mastery of their instruments" (Linari et al., 2022, p. 172). If we acknowledge the important sociocultural role of youth ensembles, it is essential to explore both the educational and the emotional

benefits obtained by the participants and examine the transformative impact on the communities that host and sustain such projects. Essomba (2019), for example, proposes a formative model (inclusive and community-oriented) structured in six stages, ranging from awareness to recognition while passing through expectation, mobilisation, decision and identity.

Several authors argue that activities of musical ensembles should play a central role in music teaching and learning (Mawang et al., 2019). Its advocates highlight not only the development of technical and instrumental skills but, above all, the motivational boost provided by these experiences in terms of performance and musical activities in general (McPherson & McCormick, 2006; Mansour et al., 2018).

Inclusive education – in general, and in music in particular – is understood to be an approach that ensures access, participation and learning for all students, regardless of their personal, social or cultural background, by breaking down barriers and valuing diversity as an asset (Ainscow et al., 2006; Gisbert et al., 2024). The literature shows that the members of an orchestra develop a positive sense of interdependence, since music-making is a group experience that also promotes individual responsibility and strengthens self-esteem (Rickard et al., 2012). In the words of Kaplan and Stauffer, “each member is responsible for their part within the whole” (Kaplan & Stauffer, 1994, cited in Vidal et al., 2010, p. 365). In this context, all members of the orchestra share leadership roles by taking responsibility for their actions and seeking efficiency within the group, working together to create a joint musical product. From a holistic pedagogical perspective, the orchestral format in schools is justified by the way it improves interpersonal relationships and fosters a sense of inclusion among the participants (Lorenzo, 2017).

3. Methodology

3.1. Design

A case study design was used for this research, given the challenge of exploring a complex reality composed of multiple variables and diverse informants. The aim was to examine in detail the characteristics, meanings and key implications of the object of study (Yin, 2018). In this sense, the case study format facilitates a comprehensive understanding of the phenomenon under analysis; it allows for the triangulation of data from various sources and the identification of underlying patterns. The ability of this methodology to capture the nature of social and educational phenomena is widely recognised in the scientific literature (Hamilton & Corbett-Whittier, 2018).

The study was carried out during two terms of the 2023–2024 academic year, within the regular rehearsals of two string orchestras. These orchestras have operated continuously since the 2014–2015 academic year in two state schools devoted to early childhood and primary education in the province of Girona (Spain). The orchestral project is carried out on an annual basis at both schools with students from the third year (8-to-9-year-olds) and fourth year (9-to-10-year-olds) of primary education in Spain (the so-called middle cycle). For this research, observations were made during four sessions with the aforesaid third-year students at each school. Additionally, the research team attended a public concert performed by one of the orchestras, although this event was not included in the observational corpus or in the triangulation of results.

The authors of the study were not involved in the project in any way before or after the research. Nor did they have any professional relationship with the organizing entity, which did not promote or supervise the research at any point.

3.2. Method

This research took a qualitative approach aligned with the goals of the study, which were focused on obtaining a deeper understanding of social and human phenomena from the perspective of the material under study (Denzin & Lincoln, 2018). In accordance with this approach, interpretive methods such as interviews and observation were employed to analyse meanings, experiences and contexts. As pointed out by Creswell (2013), the qualitative paradigm is based on a constructivist epistemology where reality is assumed to be subjective and socially constructed, with emerging theories generated by applying a flexible approach and inductive analysis.

After identifying the research topic and defining the goals, fieldwork was carried out on the basis of analytical observations of rehearsals by both orchestras, exploratory interviews with project members, online questionnaires addressed to the orchestra teachers, and focus group interviews with small groups of students. The data collected was subsequently coded and triangulated according to the three data sources of the study (Cohen et al., 2017).

3.3. Sample

The research sample consisted of the two aforementioned schools, selected as the only examples of schools with string orchestras on the *Planters* project. The ensembles were made up exclusively of violins and cellos, following the “three violins per cello” rule for reasons of sound balance. In both cases, the orchestras were made of the entire class group and they shared a similar sociocultural profile.

Two primary education groups of 8-to-9-year-olds, consisting of twenty students – one group in each school – were observed during four 60-minute rehearsals. These sessions usually took place within school hours as a curricular complement to general music education. Focus group interviews were conducted with eight students from each school, selected by teachers and school boards according to criteria of heterogeneity and representativeness.

At School 1, the orchestra teachers were a violinist and a cellist with extensive professional experience. At School 2, the orchestra teachers were also a professional violinist and cellist, who had led the orchestra for two years. In general, these orchestra teachers build up strong ties with the educational community and are considered part of the teaching staff, although their administrative link is temporary and specific. They possess long-standing professional experience, particularly with young people, and receive pedagogical training organised and coordinated by *ConArte Internacional*. Additionally, the music teachers in both schools play an active and supportive role during rehearsals.

In both cases, the respective local councils financed the initial purchase of instruments and continued to cover a substantial part of the annual budget.

School 1 is located in Salt (Girona, Spain), with about 30,000 inhabitants. The school's main distinguishing feature is its sociocultural make-up, with a high percentage of immigrants that reflects the town's demographic profile. The school is situated in an inner urban area and has stood out for its emphasis on arts and music projects since it opened, particularly since it joined the *Planters* project organised by *ConArte Internacional*. At School 1, music education plays an important role, although this is only one of the many factors that make it a dynamic, participatory and inclusive institution.

School 2 is located on the outskirts of Figueres (Girona, Spain), which has about 50,000 inhabitants, in a neighbourhood also characterised by a largely immigrant population. According to its educational project, most of the families have a poor understanding of the current educational system, show limited involvement in their children's learning processes and hold low expectations for their children's academic success. Given the risk of social exclusion facing young people in the area, the school aims to become an agent of socialisation and revitalisation for the local community, which explains initiatives such as the string orchestra project.

The progress and achievements of both school string orchestras, after a decade of implementation and development, are described regularly in the annual reports issued by the schools. Likewise, *ConArte Internacional* periodically evaluates and reflects on the evolution of the project, overseeing coordination inside and between the schools and with the orchestra teachers in order to ensure pedagogical continuity.

3.4. Data collection instruments

The in-situ observations relied on a systematised set of instructions, with guidelines for data collection and divided into sections. This instrument was developed by the research team and externally validated by experts, who assessed the relevance and clarity of the observed items and their alignment with the research goals, and suggested certain improvements (Río Sadornil, 2003). The observations were carried out simultaneously by two researchers. Inter-observer reliability was assessed using a concordance table and Cohen's Kappa coefficient (Klein, 2018), resulting in very high agreement ($=0.87$). In addition, all the observed sessions were video-recorded and later reviewed to complete and internally validate data collection (Penn-Edwards, 2004).

The research team prepared a semi-structured guide for the focus group interviews. This guide was validated by the orchestra teachers and teaching staff at the schools, who suggested changes based on pedagogical criteria and their knowledge of the students. The group interview consisted of five sections (introduction, description of the activity, personal and collective organisation, project evaluation and perceived benefits) and a total of twenty questions. Finally, an online questionnaire was prepared for the orchestra teachers after conducting exploratory interviews and making a thematic selection based on the theoretical framework and specific characteristics of the project. The questionnaire allowed for a more structured line of inquiry and the orchestra teachers were able to give detailed, thoughtful answers.

3.5. Procedure

Data collection took place in the schools themselves during the second and third terms of the school year. Using the aforesaid instruments, it involved the observation of rehearsals and scheduled individual and group interviews with the orchestra teachers and students.

The qualitative analysis was based on the collection, coding and triangulation of data. This served to verify and compare the information obtained through the different methods and sources (Benavides & Gómez-Restrepo, 2005). The student interviews were fully transcribed and shared with the research team for analysis. An open coding process was then carried out across all transcripts, identifying emerging categories and contrasting them with categories already established in the existing literature (Saldana, 2016).

The questionnaires completed by the orchestra teachers were analysed using comparative tables, enabling the identification of patterns and differences among answers. Classroom observations were processed using notes recorded in the observation guide, thus facilitating the identification of relevant dynamics and behaviours. Both observers also reviewed the recordings to complete and internally validate data collection, which also served as a stimulus for analysis and reflection (Penn-Edwards, 2004).

Subsequently, the data obtained by means of these techniques was triangulated to improve the validity and reliability of the findings.

The results were presented in individual dossiers prepared for each school, where the specific findings were systematised. Finally, these were merged into a final report that synthesises the overall results presented in this article.

In accordance with the ethical principles of the Declaration of Helsinki (World Medical Association, 2013), all participants were duly informed about the purpose, scope and requirements of the research. Informed

consent was obtained to guarantee privacy and confidentiality. In the case of students, authorisation was also obtained from their families or legal guardians, managed in due time and form by both schools.

4. Results

4.1. Organisation and characteristics of orchestral work

The results concerning the organisation of rehearsals and the pedagogical strategies used in the orchestral work with the participating children are presented first. For their analysis, the research team established three main categories: session planning, the characteristics of the musical material used (repertoire), and the pedagogical approaches applied during rehearsals. In addition to these a priori categories, emergent codes were identified through qualitative analysis, in this way enriching the understanding of the object of study.

The data is presented in a table that summarises these key elements and facilitates the identification of patterns and trends in orchestral work. This is followed by an interpretative analysis based on the triangulation of data and sources, integrating information obtained through interviews, observations and questionnaires. This process led to the comparison of different perspectives and strengthened the validity of the findings, offering a more comprehensive view of the pedagogical and organisational dynamics observed.

Table 1. Categories of analysis, coding, and sample of triangulated data with regard to the organisation and characteristics of orchestral work

| CATEGORIES OF ANALYSIS | CODING | TRIANGULATED DATA |
|------------------------|--|---|
| Planning | Type of activity Sequence of activities | <ul style="list-style-type: none"> • OB/FG/Q (S1/S2): Listening; vocal practice; rhythm and reading exercises; instrumental technique; orchestral practice; fun activities. • OB/FG (S1): Welcome song; body exercises; instrumental technique; new repertoire study (sung, pizzicato, bow); repertoire review; fun activities. • OB/FG (S2): Welcome song; live listening and commentary; instrumental activities; class closure and orchestra diary. |
| Repertoire | Learning of techniques Styles and genres | <ul style="list-style-type: none"> • OB (C1/C2): OB (S1/S2): Open string exercises and first position. • FG/Q/OB (S1/S2): Variety of styles and genres (classical, traditional, modern); folk songs, youth orchestra repertoire, adapted arrangements. |
| Pedagogy | Didactic resources Motivation Attitudes Strategies Interpersonal relations | <ul style="list-style-type: none"> • OB (S1/S2): Songs as a basis for learning notation, fingerings, posture, etc.; hand signs; adhesive strips on fingerboards. S1 uses sheet music and recordings; S2 emphasises memorisation and diary use. • FG (S1/S2): Public performances; home practice with family support. • Q (S1/S2): Focus, listening, imitation, collective awareness. • Q (S1/S2): Song as a basis for developing melodies (sung and played) and accompaniments; activities focused on working on a specific technical aspect (pizzicato, arco, bow strokes, scales, etc.); classroom management through dialogue, reflection, and motivation. • OB (S1/S2): Fluid communication, empathy, humour, respect for different abilities. |

Notes: OB = observations; FG = focus groups; Q = questionnaires; S1 = School 1; S2 = School 2.

The triangulation of data reveals a cohesively structured organisation of rehearsals, with only minor differences observed between schools such as the inclusion of the orchestra diary in School 2 (fig. 1). The general sequence of sessions follows a common structure comprising four phases: (1) initial listening, (2) technical and sight-reading exercises, (3) learning of new repertoire and reviewing previously studied pieces, and (4) a closing recreational activity. As explained by the orchestra teachers from the first school: "Regarding the planning of rehearsals, we start by waking up the body, unpacking the instruments, doing technical work on bowing and notes, working on new repertoire, consolidating and reviewing old pieces, and we often finish

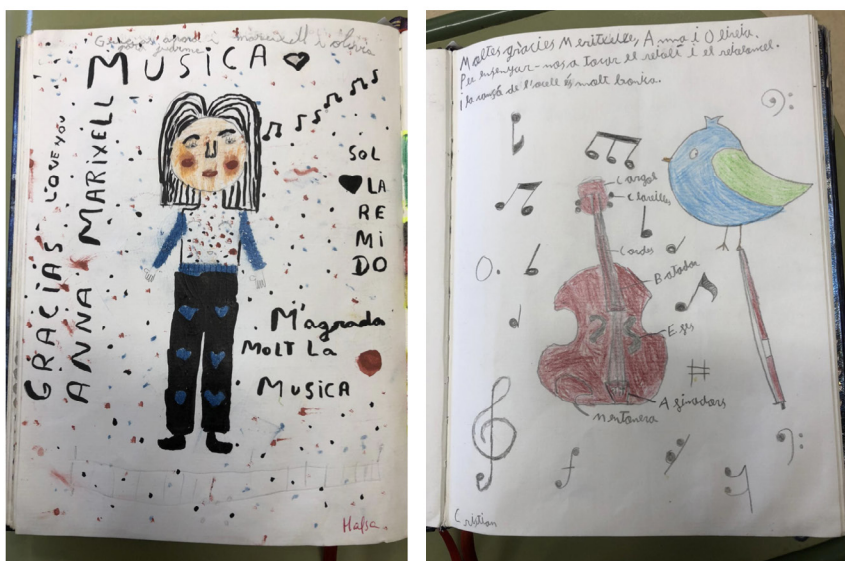
with a game or dance” (Orchestra teachers, School 1). In the second school, the structure is described as follows: “Welcome song; live and commented listening; two or three activities with the instrument; class closure and notebook/diary” (Orchestra teachers, School 2).

The selection of repertoire is guided by pedagogical criteria related to students’ levels, prioritising traditional songs and works designed for beginners (fig. 2). In some cases, orchestra teachers create bespoke arrangements and adaptations to facilitate the development of both musical and technical skills (fig. 3). The progression in the level of difficulty is managed gradually, allowing students to advance at their own pace. As noted by orchestra teachers from one school: “We use a varied and level-adapted repertoire, basically during the first year with open strings and gradually introducing the fingers” (Orchestra teachers, School 1). Similarly, orchestra teachers from the other school reported: “We make use of folk songs and repertoire for youth orchestras. The orchestra teachers make tailored arrangements when necessary, and we also use pre-existing materials” (Orchestra teachers, School 2).

Learning is based on a diverse range of didactic resources, with song serving as the central element of instrumental performance. The activities combine the development of technical aspects, including pizzicato and bowing, with the teaching of musical language, fostering both individual growth and group cohesion. As explained by the orchestra teachers: “Regarding pedagogical approaches, song is used as the foundation, from which melodies (sung and played) and accompaniments are derived. Each activity serves to work on a specific technical aspect: pizzicato, bowing, bow strokes, scales...” (Orchestra teachers, School 2). The importance of song and of the activities built around it was also emphasised by the students during the focus groups: “In an orchestra rehearsal, we practise songs and make rhythms with the notes” (Student 1, School 1).

In addition, public performances serve a dual purpose: they not only enrich the teaching and learning process but also provide an opportunity to evaluate the project’s progress, thereby strengthening participants’ confidence and commitment. This dimension was highlighted in both projects: “At the end of each term, at least, concerts or public performances are held. Their formative role is to showcase the work accomplished, face the stage experience, and enjoy the music” (Orchestra teachers, School 1). Concerts were also valued for their contribution to community engagement: “Their formative role is mainly motivational and helps to strengthen the bond with the entire educational community” (Orchestra teachers, School 2).

Figure 1. Drawings and notes from the Orchestra Diary (School 2). Translation of Hafsa’s text (left): “Thank you, Anna, Meritxell, and Olivia for helping me. I really like music.” Translation of Cristian’s text (right): “Many thanks, Meritxell, Anna, and Olivia for teaching us violin and cello. The bird song is very beautiful.”



Images courtesy of *ConArte Internacional*.

Figure 2. First finger exercises (left) and “Bim Bom” folk song (right), School 2 Orchestra.

| | |
|---|---|
| <p>El primer dit violí</p> <p>La tortuga</p> <p>L'elefant</p> <p>El cavallet de mar</p> <p>L'esquirol</p> <p><small>Orquestra de corda i baix de Pàpi - Plaça Català</small></p> | <p>Bim Bom cançó popular</p> <p>Violí</p> <p>VI.</p> <p>Bim Bom, les campanes de Salom, toquen a festa i fan Bim Bom, Bim Bom.</p> |
|---|---|

Materials courtesy of *ConArte Internacional*.

Figure 3. Reading exercises (left) and bow/open string exercises (right), prepared by Orchestra Teacher 1, School 2 Orchestra.

| | |
|--|---|
| <p>EXERCICIS DE LECTURA <small>cordes Sol, Re i La sempre pizzicato</small></p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> | <p>EXERCICIS AMB L'ARC <small>Cordes obertes</small></p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> |
|--|---|

Materials courtesy of *ConArte Internacional*.

4.2. Individual and Collective Educational Achievements

The following section presents the data obtained about the educational benefits of the orchestral project. Three main sources of information served for the analysis: observation, focus groups and questionnaires. The research team used them to establish three key categories of analysis: the participants’ musical learning outcomes, the development of learning habits and routines, and the inclusive approach to orchestral work.

Using the same structure as in the previous section, the results are presented in a table that summarises the data related to each category, which enables the identification of patterns and convergences within the data. Subsequently, a triangulation process was carried out in which the different sources and perspectives were contrasted to achieve a well-grounded interpretation of the findings. The purpose of this approach

was to obtain a more complete understanding of the educational impact of the orchestral projects on the participants' musical and social development.

Table 2. Categories of analysis, coding, and sample of triangulated data with regard to the Individual and Collective Educational Achievements

| CATEGORIES OF ANALYSIS | CODING | TRIANGULATED DATA |
|------------------------|--|--|
| Musical training | Instrumental skills Musical language Musical culture | <ul style="list-style-type: none"> • OB (S1/S2): Posture, sound production. S1 uses notation; S2 uses memorisation. • Q (S1/S2): Instrument mastery (pizzicato, bow, posture). • FG (S1/S2): Simultaneous learning of reading and playing music. • FG (S1/S2): Knowledge of composers. • Q (S1/S2): Scales, ostinatos.. |
| Habits and routines | Positive attitudes Collaboration Listening | <ul style="list-style-type: none"> • OB (S1/S2): Instructors' enthusiasm; attention and respect. • FG (S1/S2): Collaboration, transferable skills. • Q (S1/S2): Concentration, discipline, reasoning. |
| Inclusion | Individualised support Motivation Shared spaces Sense of belonging in a group | <ul style="list-style-type: none"> • OB (S1/S2): Attention to individual needs. • OB (S1/S2): Support for newcomers, motivational strategies. • FG (S1/S2): Enthusiastic response to public concerts, family recognition. • Q (S1/S2): Inclusive approach with equal starting level, group cohesion. |

Notes: OB = observations; FG = focus groups; Q = questionnaires; S1 = School 1; S2 = School 2.

The triangulation of data reveals that the project not only enhances cognitive skills such as comprehension, attention, concentration, reflection, and memorisation, but also strengthens teamwork, socialisation, and the creation of bonds among students and within the educational community. Through shared musical practice, students develop strategies for cooperation and communication that foster an inclusive and collaborative learning environment.

According to the orchestra teachers, the main learning outcomes observed include the strengthening of group cohesion, the development of team awareness, and improvements in active listening and fine motor coordination. They also highlight the positive impact on the acquisition of values such as mutual respect and responsibility for the care of shared instruments, contributing to harmonious coexistence in the classroom. As expressed by the orchestra teachers: "The main educational improvements promoted by the project are concentration, body awareness, and teamwork" (Orchestra teachers, School 1). Among the skills developed by students, the sense of collectivism is regarded as highly transferable to other areas of school life and beyond. Similarly, orchestra teachers from school 2 noted: "The main educational improvements are, above all, in the field of group belonging, progressing together, reinforcing listening, fine motor skills, respect towards classmates, and care of materials" (Orchestra teachers, School 2).

From the participants' perspective, the learning acquired in the orchestral context transcends the musical sphere and applies to other academic domains. As one student described: "Since music sometimes relaxes us, when we come from music lessons (to other subjects) we are more relaxed" (Student 1, School 1). The development of listening skills is another aspect emphasised by students: "The orchestra helps us in other subjects because we learn to listen" (Student 2, School 1). Another example of transferability is found in language learning: "The orchestra also helps us in other subjects because, for example, we know the syllables (do, re...) and that also helps with vocabulary" (Student 1, School 2).

Participants also reported improvements in personal attitudes. Behaviours such as respect, collaboration, and sustained attention are reflected in their academic performance and social interactions. In this regard, one student stated: "When I don't get it right, I pretend to play but without making sound, so I don't disturb the others, and then, when we stop, I practise it again" (Student 4, School 1). Another added: "Sometimes I get lost, so I look at those next to me or at the conductors to see how it's done" (Student 2, School 1).

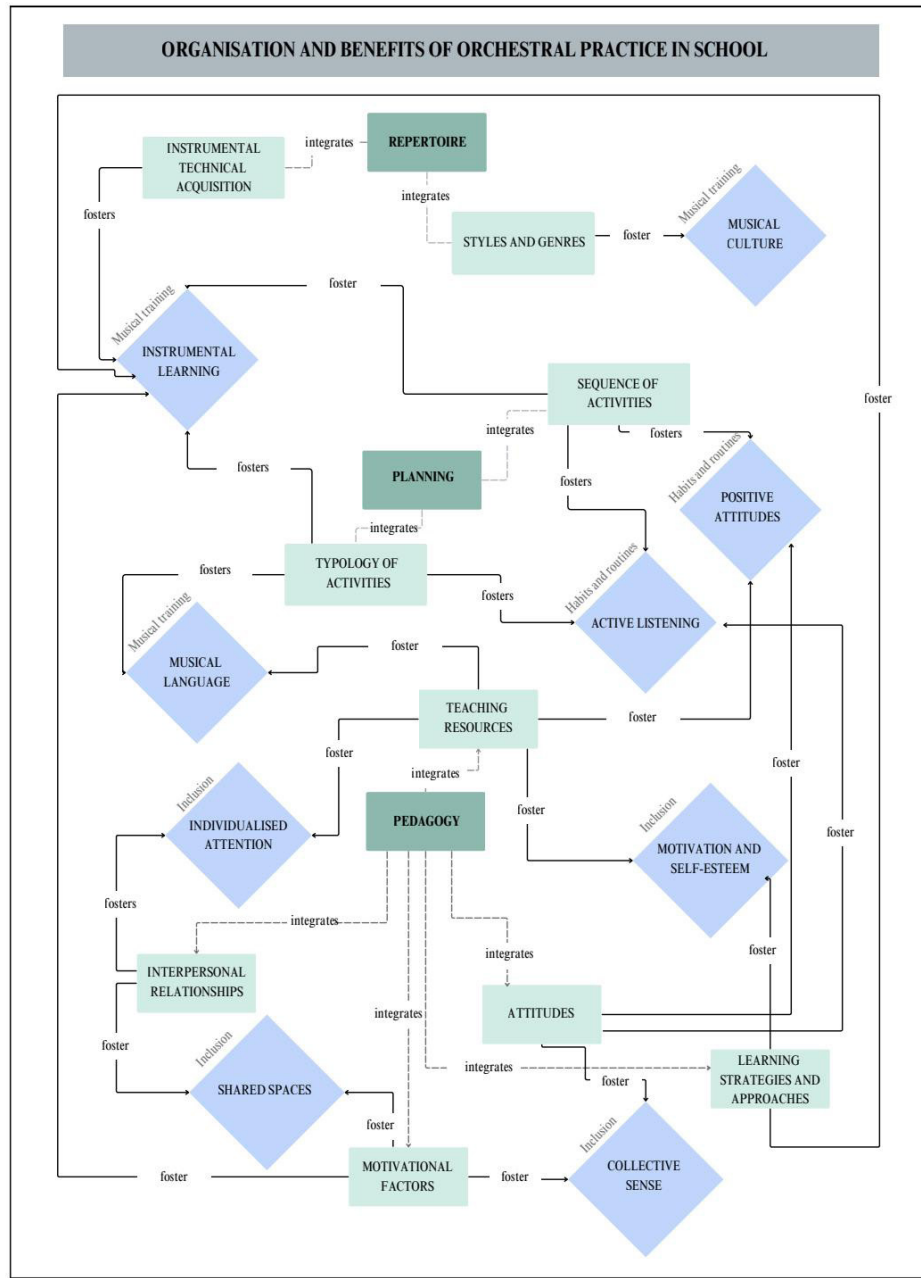
Instrumental practice takes place in a fully inclusive manner, with no exclusionary requirements for participation, allowing the integration of students with different levels of experience and skill. Moreover, the presence of several orchestra teachers ensures continuous and individualised guidance, enabling progress to be tailored to each student's needs. This aspect is highly valued by the participants: "The teachers help us when we need it. We raise our hand and ask them, and they help us. And sometimes they come by themselves to check if we're doing it right or if we need help" (Student 5, School 1).

Finally, the orchestra not only contributes to students' musical development but also fosters a strong collective awareness. This sense of belonging is reinforced both by the regularity of rehearsals and by the social recognition received through public performances, making it a meaningful educational experience

inside and outside the classroom. One student described the satisfaction of their families when attending performances: “Our families say it’s very beautiful when we play, and that we can keep striving to do it well and even better” (Student 1, School 2). Another highlighted the group spirit developed through the project: “In the orchestra, we are a team, and we help each other, and that makes us feel united and happy” (Student 6, School 1). Interpersonal relationships also evolve through participation: “I’m now closer to people I didn’t talk to very often before, but now we have to do many things together” (Student 5, School 1).

As a synthesis of the findings, a conceptual map is presented to organise and interrelate the analysed categories, reflecting the connections among the different codes and the results of data triangulation. This visual representation provides an overview of the dynamics and learning processes experienced by the students participating in the project.

Figure 4. Conceptual map of interrelations among categories and triangulated evidence.



5. Discussion and conclusions

The findings of this study confirm that orchestral work in schools characterised by high sociocultural diversity promotes learning that encompasses both the musical domain and the development of interpersonal and intrapersonal skills, as well as fostering positive attitudes and values. The data shows that structured session planning, together with the use of an accessible, progressive repertoire, supports the acquisition of basic musical competencies such as instrumental mastery, music reading and coordination. Furthermore, the didactic sequence focused on song, active listening and play proved to be an effective strategy for motivating

and engaging students, fostering meaningful and collective learning, in line with Hallam (2010) and Moscardini et al. (2013).

School orchestral experience not only enriches artistic learning but also strengthens key competencies such as discipline, perseverance and integration in different environments. In line with Cobo (2016), the observation of the orchestral rehearsals showed that they are privileged didactic spaces, characterised by a high density of social interactions, including collaborative learning and processes of collective construction of musical knowledge. And as underscored by Solís (2021), the educational value of group performance lies in its essentially social nature, reflected in improved self-esteem, active participation, a sense of belonging and a better school climate – positive factors corroborated by the data gathered.

Among the key findings, the role of the orchestra teachers stands out for its decisive importance in developing the inclusive dimension of the project, in conjunction with pedagogical leadership and the school's music specialists. The results highlight the need for a hybrid figure—the musician-cum-orchestra teacher-cum-conductor—who understands how to integrate musical, pedagogical and socio-emotional competencies. This figure not only guides the technical work but also fosters collaboration and attitudes of respect, listening and cooperation in the classroom, as also highlighted by Bouza et al. (2020). In this sense, the teacher's profile is essential when it comes to turning rehearsals into a comprehensive educational experience. Paredes et al. (2019) reinforce this perspective by underlining the importance of a proactive teaching practice based on equity, which ensures accessible and meaningful learning opportunities for all students. In the sample analysed, this inclusive approach allowed orchestral work to become a gateway to valuable aesthetic, cultural and educational experiences, particularly for students facing situations of social vulnerability.

The research questions and goals were satisfactorily addressed. First, with regard to the analysis of the implementation of school orchestras, the results highlight the need for institutional cooperation in order to provide resources for projects of this magnitude and, above all, to ensure continuity. Second, the collected evidence defines the school orchestra as a transformative educational experience, capable of transcending the music classroom and influencing school life as a whole and strengthening the sense of belonging, inclusion and community commitment. However, the demands placed on management and the investment in resources needed pose significant challenges in terms of sustainability.

In conclusion, the results of this research substantiate the pedagogical and social value of collective instrumental learning as a tool for educational inclusion, cohesion and holistic student development in the schools where it is implemented. More specifically, significant benefits can be identified in five key areas of student progress:

1. Concentration: development of attention, listening and active hearing skills.
2. Communication: development of creativity, self-expression and improved self-esteem through positive self-projection.
3. Intellect: acquisition of knowledge, mental agility and cultural breadth.
4. Behaviour: greater discipline and adoption of positive habits.
5. Well-being: relaxation, emotional balance, and improved coexistence and sense of community.

6. Limitations and future research

Despite the value of the data presented, this research displays various limitations due to its qualitative nature and the focus on a single case study, as reflected in the results. Specifically, the observations focused solely on groups of eight-to-nine-year-olds in primary education and the students interviewed only provided a partial view of the experience. To reinforce the consistency of the study, it would be worth expanding the number of observed sessions by diversifying the moments of the school year analysed and including other educational age groups involved in the orchestral project, thus obtaining a more complete picture of its individual and collective educational impact.

Regarding future research, it could be expanded to incorporate other artistic disciplines such as dance and theatre, in line with the curriculums planned by the schools themselves. Given the positive impact and relevance of the results observed, new studies should also include quantitative approaches to data collection and analysis. Furthermore, it would be appropriate to explore the applicability of this model in other educational contexts and examine its medium- and long-term effects on the musical, social and emotional development of students.

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