



# Music competences in the training of generalist educators and the selection of a music specialization: an analysis based on students' self-perception


**Diego Calderón-Garrido**

Departamento de Didácticas Aplicadas, Facultad de Educación, Universidad de Barcelona. (España) ✉ 


**Josep Gustems-Carnicer**

Departamento de Didácticas Aplicadas, Facultad de Educación, Universidad de Barcelona. (España) ✉ 

**Salvador Oriola-Requena**

Departamento de Didácticas Aplicadas, Facultad de Educación, Universidad de Barcelona. (España) ✉ 

**Marta Casals-Balaguer**

Departamento de Didácticas Aplicadas, Facultad de Educación, Universidad de Barcelona. (España) ✉ 

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**ENG Abstract:** The importance of music as a didactic tool in primary education classrooms underscores the essential need for future educators to receive basic musical training during their undergraduate studies in the Degree of Education, in the Spanish context. This allows them to effectively address current educational needs. The present research was based on two main objectives: to understand the development of competencies and content related to subject Musical Expression in Primary Education based on students' self-perception; and to determine if these competencies were in any way related to the subsequent choice to pursue a specialisation in music education, comparing their influence before and after having taken the subject. A quasi-experimental design was used, based on program evaluation, and a factorial relational design. The sample consisted of 559 students from the Universitat de Barcelona in the questionnaire completed at the beginning of the course and 301 at the end of the course. The results reported a significant increase in knowledge acquired related to the design of musical resources and activities by students after taking the subject. However, more artistically-musical content (singing, musical language, etc.) took a back seat. In relation to the subsequent choice of music education specialisation, a significant reduction in influencing variables was observed. These revolved around vocal performance skills and knowledge of the basic elements of music. From the study, the importance stands out for researchers and educators to review future degree curricula and their specialisations.

**Keywords:** musical competences; music pedagogy; teacher training; music specialization; generalist teacher.

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## 1. Introduction

The role that music holds or should hold in primary education schools in Spain is a perennial topic that remains unresolved due to the conflicts arising between various stakeholders and their differing interests. Prominent among these are educational policies, initial teacher training, the social perception of arts education, current educational needs, and the results of scientific research, among others (Arostegui, 2017).

The current Spanish educational legislation for primary education (LOMLOE) promotes competency-based learning as a tool for the comprehensive development of students throughout their lives. This approach prioritizes pedagogical aspects such as learning to learn, emotional well-being, the personalization and functionality of educational processes, and the integrative and cross-disciplinary nature of learning. This educational reality demands versatile and interdisciplinary pedagogical strategies and teaching resources. However, music continues to occupy a marginal position within the educational curriculum. Music and Dance, along with Visual and Plastic Education, form the area of Artistic Education, which typically has a minimum

teaching load of two hours per week in most Spanish schools. Consequently, students dedicate only about one hour per week to the specific learning of music during the six years of primary education (Casanova & Serrano, 2018).

Despite this limited instructional time, there is a widespread consensus among primary education teachers on the importance of including music in the classroom and using it as an educational tool for acquiring various types of learning (Álvarez *et al.*, 2016; Nieto *et al.*, 2022). This supports the concept of “transversal learning” through music. Teachers believe that learning music itself should be entrusted to those with specific musical training (Aróstegui & Kyakuwa, 2021; Russell-Bowie, 2009). Numerous studies align with this view, indicating that music can be an effective educational resource for reinforcing and enhancing key competency-based learning, such as linguistic communication (Almeida & Zambrano, 2020; Campollo-Urkiza & Cremades-Andreu, 2022), mathematical competence (Calvo de Celis, 2022; Casals *et al.*, 2014), personal and social competence, learning to learn (Carrillo *et al.*, 2017), cooperation and active listening (Cortón-Heras *et al.*, 2023), and creativity or digital competence (López & De Moya, 2017). However, generalist teachers acknowledge that they did not receive sufficient musical training during their teacher education programs to effectively use music regularly in their classrooms, which can limit or even prevent them from applying this educational method due to a lack of confidence or knowledge (Cremades-Andreu & García-Gil, 2017).

On the other hand, students pursuing a degree in Primary Education perceive that many of the courses within this degree prioritize the learning of theoretical content at the expense of acquiring and developing competencies related to how to teach and apply what they learn in the current educational environment (Rodrigo-Moriche *et al.*, 2022; Sarceda-Gorgoso & Rodicio-García, 2017).

Regarding the basic musical training that any primary education teacher should possess, a review of the curricula for Primary Education degrees offered in Spain reveals that the mandatory music course aims to develop musical competencies that enable future teachers to perform their profession effectively. According to current legislation (Royal Decree 1594/2011), any school teacher should have teaching competence in all curricular areas. These competencies include designing and developing musical activities, teaching musical knowledge, using musical resources and materials, and integrating music into the curriculum. Despite this, the reality often still reflects a traditional approach focused primarily on acquiring musical content rather than its practical application in the classroom (Belletich *et al.*, 2017; Fernández-Jiménez & Valdivia, 2020). This approach mainly aims for students to analyze a musical piece or perform a song at a high artistic level, while sidelining how to use these pieces or songs educationally in the classroom or where to find effective musical resources and tools for creating new teaching materials. Moreover, this often poses a significant challenge for students without specific musical knowledge, leading to widespread dissatisfaction with this type of course.

We must also not overlook the current pedagogical renewal in primary schools, where project-based learning, service-learning, and cooperative and collaborative work, among others, are increasingly prevalent. In this context, music can become a key transversal element for motivation, contributing significantly to the application of these methodologies (Vernia-Carrasco, 2018).

Taking into account all these realities, needs, and demands, we have implemented a Teaching Innovation Project (PID) in the Primary Education Degree at the University of Barcelona. This project has redefined and adapted the curriculum of the mandatory course “Musical Expression in Primary Education.” The primary objective of this course is to acquire and develop competencies that enable future teachers to use music as an educational resource in any of their classes, effectively addressing current educational needs.

Thus, the purpose of this study is to evaluate the students’ perception of the musical competencies acquired and developed through this course. Additionally, we aim to identify whether any of the investigated variables influence the subsequent choice of the music education specialization. As a theoretical foundation, we will provide a synthesis of the most relevant characteristics of the mandatory music course in the Primary Education Degree, as well as the music specialization, which will serve as the context for the conducted research.

## 1.1. Musical Competencies in Initial Teacher Training

Most Primary Education degrees in Spain include a mandatory 6-credit course related to music education in the early years of the program. The aim is to highlight the importance and functionality of music in the classroom and to equip and develop future teachers’ competencies to incorporate music as a pedagogical resource. This training is very heterogeneous concerning the curriculum plans and offerings: some universities distribute it across one or two different courses, while others integrate it into courses that combine various artistic subjects, treating Arts Education in an interdisciplinary manner, as it appears in the primary curriculum (Fernández-Jiménez & Valdivia, 2020).

Music is very present in the lives of university students, although when it comes to learning it, certain beliefs generate some aversion. These beliefs include the notions that one must have talent or innate abilities to learn music, that actions like singing or dancing in front of others cause embarrassment, or that extensive musical knowledge is required to use it as a teaching resource. To reverse this situation, it is necessary to focus on teaching and acquiring didactic-musical competencies that future teachers perceive as useful and accessible. This way, they are motivated and encouraged to use music in their future teaching roles. As Ocaña (2020) and Montes-Rodríguez (2020) state, music education in initial teacher training should be approached from a holistic and ecological perspective to achieve authentic professional development,

considering disciplinary, experiential, and practical knowledge. This creates a potential space for sensitivity, transformation, reflection, and intermedial confluence (Farrés *et al.*, 2023; Swanwick, 2008).

Therefore, curriculum plans should be reviewed and reformulated, considering the students' opinions and needs, and based on principles such as the practical utility of musical content in the classroom, and the role of the teacher as a guide and facilitator rather than just an instructor. The reformulation of basic didactic-musical competencies should revolve around the following areas (Carrillo, 2015; Zaragoza, 2022):

- Analyzing, interpreting, teaching, and creating songs, choreographies, and listening activities (Interpretive, perceptive, and musicological competencies).
- Understanding the primary curriculum regarding aspects related to music to design lesson plans, interdisciplinary projects, workshops, learning centers, etc. (Pedagogical competence).
- Searching for and designing musical teaching resources (Creative competence).

Regarding classroom methodologies, they should be primarily active and diverse, always considering premises such as:

- Starting from classroom practice to give meaning to theory. For example, using song interpretation to learn about relevant aspects such as vocal technique, classification of pieces, or methods for teaching them (Regelski, 2009).
- Offering participatory classes to create and learn how to teach collective choreographies and vocal and instrumental performances. Additionally, familiarizing with and increasing confidence in music didactics, promoting "musicking" to place the collective action inherent in music as the basis for its learning (Small, 1999).
- Acquiring knowledge and designing activities from various curriculum areas (mathematics, languages, etc.) where music is present, also contributing to the development of personal competencies such as group work, interaction, integration, dialogue, achieving goals, reasoning, problem-solving, etc. (García & Porto, 2019).
- Proposing gamified activities to cover certain course content (musical instruments, listening activities, etc.) as a motivating tool for school learning (Gil-Quintana & Prieto, 2021).
- Preparing oral presentations by students to develop communicative competence, which is essential in teaching (Álvarez-Rosa, 2019).
- Using digital technology to learn and develop activities that use music as a transversal tool (Calderón-Garrido *et al.*, 2021).

To evaluate their achievement, in addition to daily observation, it will be necessary to carry out formative and competency-based assessments. These could include the creation of artistic-didactic projects to integrate knowledge from different curriculum areas through music, the development of teaching materials, and the interpretation and teaching of musical pieces.

## 1.2. The Music Education Specialization

Starting in 2007, the diploma for music education teachers was transformed into the Primary Education Degree with a qualifying specialization, due to the alignment of teaching degrees with the European Higher Education Area and the conclusions of ANECA's White Paper (Aróstegui & Kyakuwa, 2021). In the area of musical expression, this led to a substantial reduction in credits dedicated to specific musical training. The 74 credits previously allocated for specific music training were reduced to about 30 ECTS credits in the Music Education Specialization for Primary Education, and the Practicum credits were reduced from 32 to approximately 6-9 ECTS credits (Reyes, 2010). One objective of this adaptation was to provide future teachers with a more general, comprehensive, and versatile education, at the expense of the specificity required by many subjects, such as music. In fact, the effectiveness of this model has been questioned since its inception (Aróstegui & Cisneros-Cohernour, 2010; Berrón, 2021; Montero *et al.*, 2017).

In this context, many of the music specializations offered by Spanish universities continue to structure their curricula around four traditional areas of music education: music and its languages, vocal and auditory expression, instrumental expression, and music and movement. This structure is a legacy of the old diploma system. However, there is an increasing trend towards competency-based training that effectively addresses the teaching needs of contemporary schools (Belletich *et al.*, 2017).

At the University of Barcelona, the Music Education Specialization within the Primary Education Degree is offered in the fourth and final year. To access this specialization, students must meet minimum musical knowledge requirements, which can be documented through qualifications or assessed via a specific entrance exam evaluating their musical training.

The specialization comprises 27 ECTS credits, distributed among courses worth 6 or 3 credits each: 'Didactics of Music,' 'Music and Movement: Training and Didactics,' 'Voice and Song: Training and Didactics,' 'School Instrumental Ensemble,' 'Musical Instruments: Training and Didactics,' and 'Ear Training and Musical Listening.' These courses are conducted during the first semester and part of the second. The second part of the second semester is dedicated to practical training in teaching schools (9 ECTS credits) and the Final Degree Project (TFG). While the topic of the TFG is flexible, it is often related to music education.

A notable and widespread phenomenon in Primary Education Degrees at Spanish universities is the significant decrease in the number of students opting for the music specialization compared to the previous diploma system. Some studies suggest that the increased variety of specializations (such as Attention to Diversity, Visual and Plastic Education, Digital Technologies for Learning, Communication and Expression, etc.) and the growing interest in the Physical Education specialization are contributing factors (Cuenca *et al.*,

2020). However, there has been less investigation into the reasons why future teachers choose the music specialization and whether any predictive variables influence their decision. Understanding these factors could help emphasize these variables to promote the music specialization and refocus the mandatory music course accordingly.

## 2. Objectives

Based on the described background, the objectives guiding this research are:

- To understand how the competencies and content related to the course “Musical Expression in Primary Education” have been developed according to students’ opinions and the interrelationship of these competencies.
- To determine whether these competencies have influenced the choice of the music education specialization, comparing their influence before and after taking this course.

## 3. Metodology

To achieve the stated objectives, a quasi-experimental design was employed. This included, on one hand, program evaluation (Pérez, 2015; Tejada, 2004; Tejedor, 2000) and, on the other hand, a factorial relational design (Martínez & Moreno, 2014).

### 3.1. Sample

A non-probabilistic accidental sampling method was used for the research. The population consisted of students enrolled in the “Musical Expression in Primary Education” course at the University of Barcelona during the 2021/22 and 2022/23 academic years. This course is taught during the first semester of the third year, just before students choose their specialization. Approximately 400 students take this course each year, divided into 8 class groups of about 50 students each.

Students were given an online survey that they could complete using their mobile phones on the first day of class and again on the last day. Participation was entirely voluntary, resulting in variable participant numbers before and after the course. The valid sample before taking the course comprised 559 individuals, of which 421 were women. The average age was 21.49 years (SD = 2.88). Before taking the course, 11.09% of the sample intended to pursue the music education specialization.

After taking the course, the valid sample consisted of 301 individuals, of which 230 were women, with an average age of 21.83 years (SD = 1.97). After completing the course, 12.63% of the sample intended to pursue the music education specialization.

### 3.2. Instrument

To obtain the data, a self-perception instrument was used, developed based on the results of previous studies that analyzed variables related to curriculum knowledge, vocal expression, body expression, the search for and design of resources, and knowledge of basic music elements developed in the “Musical Expression in Primary Education” course at the University of Barcelona (Oriola-Requena *et al.*, 2022). These results also validated the instrument, showing excellent consistency and internal reliability (Cronbach’s alpha = .886; .857 in the pre-test and .836 in the post-test). The Bartlett’s test of sphericity was adequate both in the pre-test ( $X^2_{55} = 401.940$ ;  $p < .001$ ) and the post-test ( $X^2_{55} = 351.903$ ,  $p < .001$ ).

In this questionnaire, in addition to sociodemographic data and a question related to the intention to pursue the music specialization, there are 10 different variables (see Table 1) related to the described aspects, to which respondents answer using a six-level Likert scale. The questionnaire demonstrated excellent consistency and internal reliability (Cronbach’s alpha = .887).

### 3.3. Procedure

The instrument was administered using the online platform Formiste. At the beginning of the survey, a free, prior, and informed consent form was included, indicating that each participant could freely leave the study at any time. Students were informed that completing the survey would take about 5 minutes and that their responses would be treated anonymously and would not be considered in the evaluation of the course.

### 3.4. Data Analysis

All analyses were conducted using the R statistical software, including the MASS, rpart, and rpart.plot packages. The statistical methods employed included the usual descriptive statistics and the calculation of statistical differences using the Student’s t-test. To analyze the variables influencing the decision to pursue the music specialization, multiple logistic regression was used to estimate the probability of a binary qualitative variable based on quantitative variables. The backward selection technique was applied to identify the variables involved in this decision, eliminating those with a p-value greater than .05 (Bursac *et al.*, 2008). To assess the importance of each variable, a linear discriminant analysis was performed (James, 2021). Finally, a decision tree analysis was conducted to visualize how the variables influenced the decision to pursue the music education specialization (James, 2021).



## 4. Results

The results showed that students' self-perception increased across all analyzed variables, with statistically significant differences ( $p < .01$  in all cases). The most notable differences were found in variables related to musical resources, such as knowledge, search, and design capabilities, as well as musical activities applicable to other subjects, and the understanding of musical aspects of the curriculum. Table 1 displays the results before and after completing the course, along with the statistical differences.

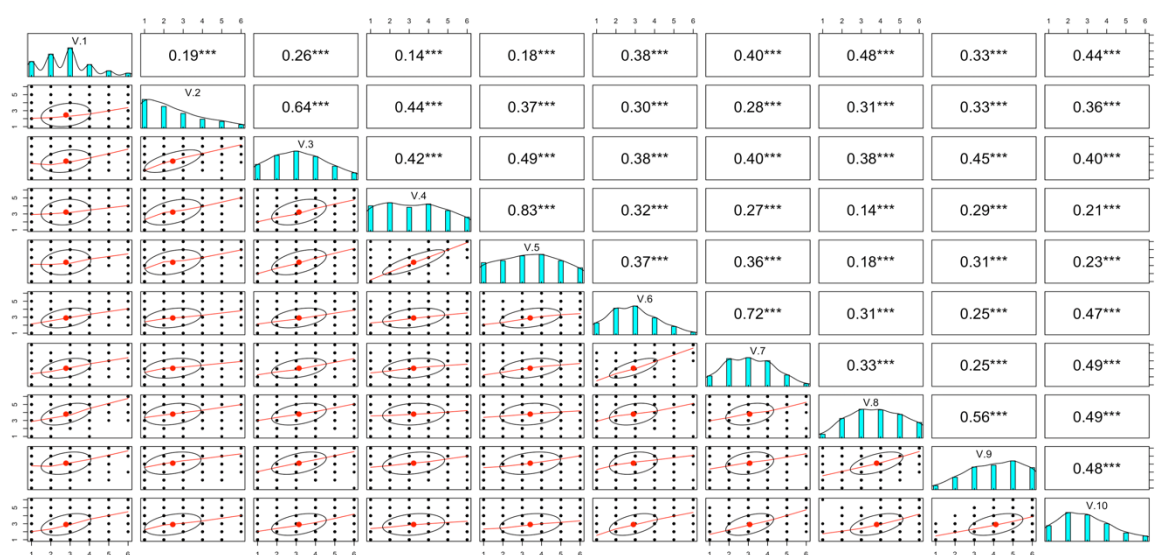
Table 1 Results and statistical differences before and after the course

VARIABLE	Before		After		Statistical Difference
	Mean	SD	Mean	SD	
V.1 I know the musical aspects included in the curriculum	2.78	1.29	4.31	1.12	$t_{665,14} = 14.01$ $p < .01$
V.2 I am comfortable singing in front of others	2.45	1.45	3.47	1.55	$t_{584,93} = 9.32$ $p < .01$
V.3 I am comfortable teaching songs to others	3.14	1.41	4.10	1.34	$t_{644,94} = 9.80$ $p < .01$
V.4 I am comfortable performing small choreographies in front of others	3.22	1.60	4.36	1.30	$t_{730,5} = 11.18$ $p < .01$
V.5 I am comfortable teaching small choreographies to others	3.40	1.57	4.45	1.29	$t_{723,55} = 10.43$ $p < .01$
V.6 I know musical resources or activities that can be applied in other subjects	2.90	1.24	4.43	1.23	$t_{617,33} = 17.31$ $p < .01$
V.7 I am capable of designing musical resources or activities that can be applied in other subjects	3.07	1.24	4.52	1.20	$t_{632,68} = 16.66$ $p < .01$
V.8 I know the basic elements of music	3.79	1.36	4.51	1.19	$t_{689} = 7.98$ $p < .01$
V.9 I can follow the rhythm of any music	4.11	1.40	4.48	1.26	$t_{672,76} = 3.89$ $p < .01$
V.10 If I need musical resources, I know where to find them	2.89	1.36	4.15	1.28	$t_{649,17} = 13.34$ $p < .01$

Table created by the author

In any case, as shown in Figure 1, all the variables analyzed before taking the course were correlated with each other ( $p < .01$ , in all cases). The distribution of responses is also shown in the blue histogram, which corresponds to each level of the Likert scale used. Notable correlations include those between variables 2-3, 4-5, and 6-7, which refer to singing, choreographies, and musical resources, respectively.

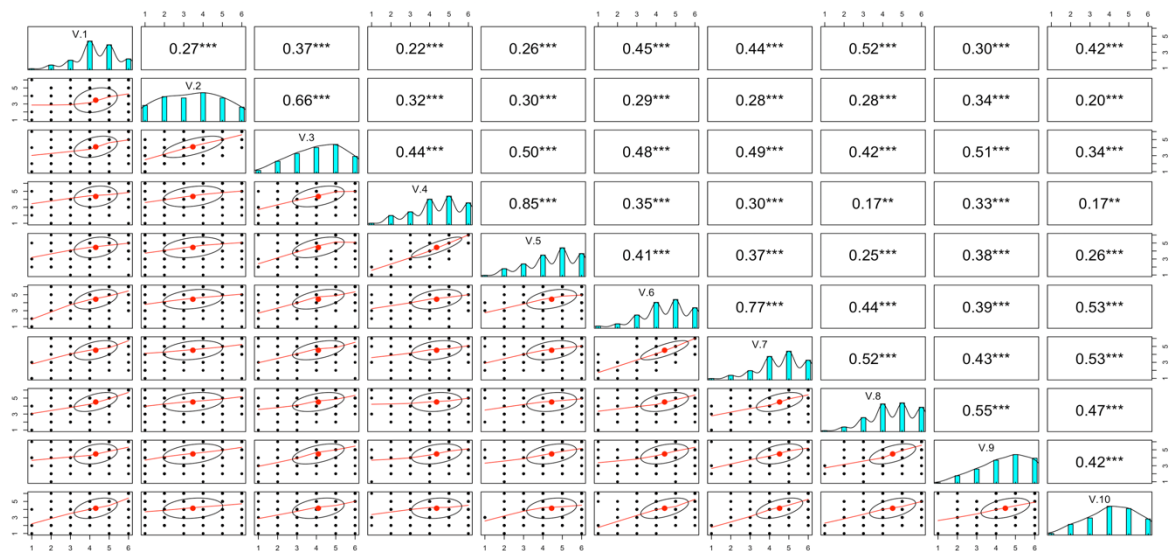
(fig.1) Distribution of responses and correlations between variables studied before taking the course.



After taking the course, Figure 2 shows that the distribution of responses shifted towards higher values in all cases. Similarly, all the analysed variables continued to correlate with each other ( $p < .01$  in all cases). Therefore, these data indicate that although the self-perception of the various variables changed substantially, the relationship between them did not.

As in the previous figure, notable correlations were observed between variables 2-3, 4-5, and 6-7, which refer to singing, choreographies, and musical resources, respectively.

(fig.2) Distribution of responses and correlations between variables studied after taking the course.



The second objective of the research was to examine the intention to pursue the music specialization as the dependent variable and the scores on the other items as independent variables. For this purpose, a logistic regression was performed.

Before taking the mandatory course, five variables were significant in influencing the decision to pursue the music specialization ( $p < .05$ ):

- Ease of singing in front of others.
- Knowledge of and ability to design activities and resources applicable to other subjects.
- Knowledge of basic elements of music.
- Knowing where to find musical resources.

The proposed model, considering these variables before taking the course, showed a validity of 91.02%. Table 2 shows the weight of each factor in the decision to choose the music specialization before taking the course.

However, after the classes, only two variables were significant in influencing this choice:

- Ease of singing in front of others.
- Knowledge of basic elements of music.

The proposed model after taking the course, based on these variables, showed a validity of 91.21%. Table 2 shows the Odds Ratios (OR), confidence intervals, and p-values of the independent variables involved in the decision to pursue the music specialization before and after taking the course.

Table 2 Regression Statistics.

VARIABLE	Before taking the course			After taking the course		
	OR*	95% CI**	p	OR*	95% CI**	p
Ease of singing in front of others	1.63	2.25; 2.10	< .001	1.08	0.73; 1.64	< .001
Knowledge of musical resources for other subjects	0.65	0.42; 0.99	.004	1.11	0.69; 1.85	0.7
Ability to design musical resources for other subjects	1.56	1.01; 2.40	.004	0.63	0.36; 1.08	0.10
Knowing where to find musical resources	2.85	1.95; 4.38	< .001	0.83	0.55; 1.24	0.4
Knowledge of the basic elements of music	1.74	1.29; 2.38	< .001	2.23	1.32; 3.94	< .001

\*OR = Odds Ratio; \*\* CI = Confidence interval

Table created by the author

Table 3 shows the weight of each factor in choosing whether or not to pursue a specialization in music education after completing the course, according to linear discriminant analysis. As can be seen, the variables related to knowledge, research, and design of resources play a significant role before taking the course, but not afterward.

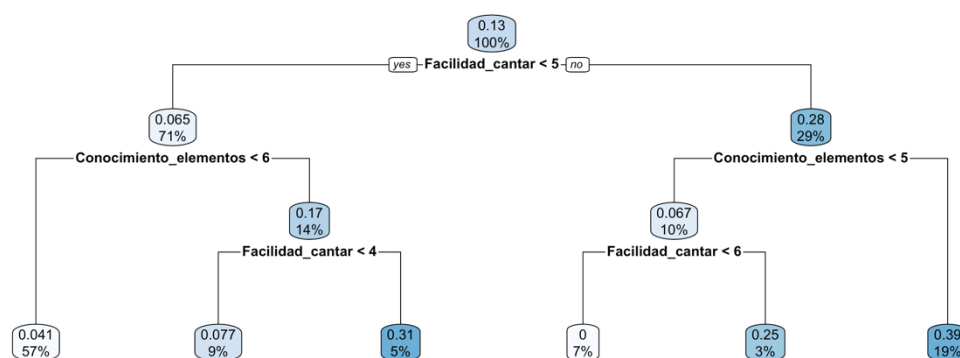
Table 3 Weight of Each Variable in the Decision to Pursue the Music Specialization, Before and After Taking the Mandatory Course.

emerged variables ( $p < .05$ )	Before taking the course		After taking the course	
	intention to pursue the specialization		intention to pursue the specialization	
	Yes	No	Yes	No
Ease of singing in front of others	4.03	2.25	4.74	3.29
Knowledge of musical resources for other subjects	3.64	2.80	-	-
Ability to design musical resources for other subjects	4.032	2.95	-	-
Knowing where to find musical resources	4.50	2.69	-	-
Knowledge of the basic elements of music	5.44	3.58	5.29	4.39

Table created by the author

To complete the information obtained, a decision tree analysis was performed. As shown in Figure 3, and by analyzing only the extremes, students who, after the classes, scored less than 5 in “Ease of singing in front of others” and also less than 6 (the maximum score) in “Knowledge of the basic elements of music” had a 57% chance of not wanting to pursue the music specialization. However, students who scored more than 5 in “Ease of singing in front of others” and more than 6 in “Knowledge of the basic elements of music” had an 81% chance of choosing this specialization. This prediction showed a residual error of 9.15%.

(fig.3) Regression tree on the likelihood of choosing to pursue the music education specialization after taking the course.



## 5. Discussion y conclusions

The first objective of this study was to understand, based on students' self-perception, which competencies and content of the mandatory “Musical Expression in Primary Education” course changed after completing it and how they changed. As expected, improvements were noted, and it is remarkable that these improvements occurred across all 10 analyzed variables. This aligns with previous data, both regarding this course and similar research (Oriola-Requena *et al.*, 2022; Valverde *et al.*, 2018).

Regarding the content that improved the most, the highlights were the knowledge, search, and design of musical resources or activities applicable to other subjects, as well as the knowledge of the musical aspects of the curriculum. These competencies are related to learning to learn, applied to music, and are shared by many other courses in the degree program. Therefore, the “classical” content of music education (such as singing) takes a back seat to more transversal and globalized working methodologies, in line with new curricular proposals (Casanova & Serrano, 2018). However, there is a risk of diluting the artistic and musical area, which seems to have weakened with the shift from specialization to mention (Berrón, 2021).

In any case, as shown in Figures 1 and 2, all the studied variables correlated with each other, both before and after taking the course. This suggests that the content taught in the course is not isolated but interrelated. Therefore, basic musical competencies are understood collectively as enhancing the use of music as an additional teaching resource in primary classrooms (Fernández-Jiménez & Valdivia, 2020).

Regarding the second objective of the study, which was to determine which content and/or competencies of the mandatory course influenced the choice of the music education specialization before and after completing the course, it is interesting to see how the results at these two points do not coincide, with a notable reduction in variables related to the decision to pursue the music specialization in the degree.

Initially, the ten variables were reduced to five. The results before starting the course indicate a dual perspective: didactic (knowing, designing, and finding musical activities and resources applicable to other subjects) and musical (singing and knowing the basic elements of music) (see Table 2). This holistic view permeates many of the specific didactic courses in the Primary Education degree, as university faculty have sought to include this flexible and integrative vision of artistic knowledge, despite their limited training and differences in their competency profiles (Calderón-Garrido *et al.*, 2021).

However, of these five competencies, only two remained after completing the mandatory course, aligning with the musical competencies proposed by Carrillo and Vilar (2014) and Holden and Button (2006). In this study, they were linked to musical (vocal) interpretation and general knowledge of musical elements. This classical orientation versus technical-musical training coincides with the conclusions of Blanco and Peñalba (2020), indicating that while the content is diverse, all curricula for this specialization include specific musical interpretation courses, whether vocal or instrumental. Therefore, it is not surprising that singing and general musical knowledge ultimately persuade students to choose this curricular path.

Another notable point is that, at this university, the specialization is completed in one year (4th year), after candidates are accepted through a selection process. This likely hinders the progressive acquisition of competencies, which would be facilitated by a longer timeline, allowing for the assimilation of musical and vocal training maturity (Elgström, 2007) without requiring solid prior knowledge, as indicated by this research. The implementation of the new university legislation (LOSU) and specifically Decree 822/2021, which establishes that future specializations will have at least 20% of the total degree credits, will significantly increase musical training, surpassing the previous focus on interpretation over research, reflection, and creation (Aróstegui, 2016). This decree emphasizes the perception of music as a “specialist” subject (Holden & Button, 2006).

Despite the decline of music in compulsory education due to new educational policies and certain knowledge economy trends (Aróstegui, 2017), we agree with Ruiz (2015) that it is essential to continue demonstrating to society that music improves quality of life. To achieve this, it is crucial that education faculties advocate for music to occupy a priority place in schools and reinforce the understanding that music is a means not only for artistic development but also for cognitive, emotional, communicative, perceptive, and social development (Vaillancourt, 2009; Andreu Duran & Godall Castell, 2010). Additionally, providing meaningful and motivating personal musical experiences for future teachers is essential. Consequently, there is a clear need to prepare educators capable of meeting the challenges posed by various educational stakeholders. When teachers have not been personally or professionally involved in musical experiences, they are less likely to become effective music teachers, as they lack the necessary confidence (Russell-Bowie, 2009).

In the same vein, Hernández-Bravo *et al.* (2014) and Swanwick (2008) emphasize the importance of competence-based work and the authenticity in problem-solving in real situations. The intrinsic nature of practical music would allow future teachers to gain confidence through varied and effective musical experiences. In other words, learning music by doing and experimenting with music would also reinforce their motivation for the subject, providing an even more meaningful learning experience (Biggs, 2006).

The new music curricula in primary education are much less “musical” in terms of specificity and seek interdisciplinarity with related artistic areas (such as visual and plastic arts, theatre, audiovisuals, etc.) (Pellegrino, 2011). This revisits the debate on whether the specialist teacher should be a teacher before a musician or vice versa, a question raised by Aróstegui (2010), and undoubtedly one of the biggest challenges in teacher training. The role and identity of music teachers will shape their didactic orientation (Aróstegui & Cisneros-Cohernour, 2010), whether focusing more on general objectives of the compulsory level or on more specific art-based training, such as music (Hall, 2000). Despite the interest in this debate between generalists and specialists, the topic is beyond the scope of this research.

Despite the results, this study has some limitations. The most significant relates to the fact that the results refer to students’ self-perception and not to an objective measure of competency acquisition. However, its value lies in guiding researchers and educators on measures to take in the redesign of future degree curricula and their specializations.

In any case, the subjective nature of the findings opens the door to future research that follows this line, investigating competency acquisition by combining students’ self-perception with external observations.

## 6. Acknowledgment

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**Diego Calderón-Garrido.** Associate Professor in the Section of Music Education Didactics, Department of Applied Didactics, Universitat de Barcelona. PhD in Educational Technology and PhD in Art History. Holds Master's degrees in Applied Statistics, University Teaching, and Music as an Interdisciplinary Art. Higher Degree in Jazz and Modern Music. Secretary of the Institute for Research in Education (IREUB) at the University of Barcelona. Member of the ESBIRNA Research Group. His research focuses on education in the digital society.

**Josep Gustems-Carnicer.** Full Professor of Music Education Didactics at the Universitat de Barcelona. PhD in Pedagogy. Holds Higher Degrees in Music, Primary Education, and a BA in Cultural Anthropology. Member of the GROPE Research Group. His research focuses on music education and music as an artistic experience, as well as on the psychological and sociological aspects of music education.

**Salvador Oriola-Requena.** Associate Professor in the Section of Music Education Didactics, Department of Applied Didactics, Universitat de Barcelona. PhD in Education. Holds a Master's degree in Music as an Interdisciplinary Art and a Performance Diploma from Indiana University. Higher Degree in Clarinet and in Music Education. His research focuses on music education in its various dimensions.

**Marta Casals-Balaguer.** Lecturer in the Section of Music Education Didactics, Department of Applied Didactics, Universitat de Barcelona. PhD in Sociology. Holds Master's degrees in Cultural Management and in Humanities: Contemporary Art, Literature, and Culture. Coordinator of the Teaching Innovation Group in Music Education (GIDEM-UB) and researcher in the Music, Voice and Education Research Group (GRUMED-UAB). Her research focuses on music and education, and on artistic professions.