Musical training for Primary Education graduates in the context of Madrid

Formación musical de los graduados de Maestro en Educación Primaria en el contexto madrileño

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Abstract:

As a result of the appearance in 2007 of the regulations governing the degree in Primary Teaching (PT), it now possible that generalist teachers might teach music without having any specific qualification in it. This research is intended to ascertain the extent to which students on the Primary Teaching degree feel that they are enabled to deliver this subject, using an ad hoc questionnaire for this purpose, which uses a reference point the music education curriculum content. A total of 301 students from three public universities in the Community of Madrid were surveyed, after they took the music module in the 2013-2014 academic year. The results obtained support the data from other similar international studies (Hallam *et al*., 2009; Watt, 2000), which reveal a marked shortfall in the music training received by future primary school teachers.

Keywords: Music education, primary education, teacher training, generalist teachers, teacher competence.

Resumen:

A raíz de la aparición en 2007 de la normativa reguladora del Grado en Educación Primaria (EP), cabe la posibilidad de que los maestros generalistas puedan ejercer la docencia de la asignatura de Música sin ninguna cualificación específica para ello. La siguiente investigación pretendió averiguar hasta qué punto los alumnos del Grado de Maestro en Educación Primaria se sentían facultados para impartir la materia musical, diseñando, para ello, un cuestionario *ad hoc*, que tomaba como referencia los contenidos del *curriculum* relacionados con la Educación Musical. Así, se encuestaron a 301 estudiantes de tres Universidades públicas de la Comunidad de Madrid, tras cursar la asignatura dedicada a la Música, en el curso académico 2013-2014. Los resultados obtenidos constatan las datos aportados por otros estudios de similar naturaleza de ámbito internacional (Hallam *et al*., 2009; Watt, 2000), subrayando un marcado déficit en la formación musical recibida por los futuros maestros de Primaria.

Descriptores: Educación Musical, Educación Primaria, formación del profesorado, maestro generalista, competencia docente.

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1. Introduction

From the 1990s onwards, music was taught at primary school level in Spain by a specialist teacher whose training, as well as covering «the basics» of «performing the teaching activity» also included «specific training» comprising seven modules relating to this subject, as well as 32 credits of specific teaching practices (Royal Decree 1440/1991, pp. 33.012-33.014). Since the new Degree in Primary School Teaching (Order ECI/3857/2007) appeared in 2007, and following the disappearance of the teaching specialisms (Royal Decree 1393/2007), graduates have been offered the possibility of taking charge of the music subject if, apart from the degree qualification, they have one of the following qualifications: a degree in music, a postgraduate qualification and/or professional qualification in music, a licenciate degree in musicology or in music history and sciences, or the old musical education diploma (Royal Decree 1594/2011, p. 116.657).

The regulations also allow for two more cases. Firstly, for the discipline to be delivered by a graduate who has majored in music, taking a specific group of modules, with a teaching load of between «30 and 60 European credits» (Order ECI/3857/2007, p. 53.748). Consequently, Spanish universities have favoured the option of majors of around 30 credits. Secondly, and with regards to the core of this research, «the primary school teaching workforce» is taken to be trained in this speciality if they show that «for three years ... and in over 30 per cent of their timetable» (Royal Decree 1594/2011, p. 116.654) they have taught the subject.

This transformation in the configuration of qualifications means that a generalist primary school teacher, who will generally only have taken a single module of music in their four years of training, owing to the 100 credits that the regulations contemplate for all of the subject areas in the «teaching and the discipline» module which it is part of (Order ECI/3857/2007, p. 53.749), could be responsible for teaching this subject as soon as they start at the school.

Regarding teaching training in other nearby European countries, the situation is very similar with no training for specialists in music education. So, for example, in France between 32 and 50 hours, depending on the university, are dedicated to studying music within the optional modules. This is also the case in Italy, where future education graduates have the choice of taking two single modules dedicated to musical instruction (Muruamendiaraz, Ordoñana, & Goldaracena, 2010).

2. Musical training for generalist teachers

The issue of whether music teaching should be left in the hands of teachers who do not specialise in it or be entrusted to a specialist has inspired a long and fertile debate among international researchers (Cevik, 2011; Biasutti, 2010; De Vries, 2013; Jeanneret & Degraffenreid, 2012). For example, Hennessy (2006) suggested that the schools where more importance is given to music as a subject, thanks to both the physical resources available and the teachers' training, would obtain better

results in the learning of the subject. For their part, Yim, Abd-El-Fattah, and Lee (2007) showed that musical skills and the confidence in the skills of the teaching staff increased the more they did it in practice, demystifying the idea that musical learning could not take place if the individual lacked a specific talent for it (Howe, Davidson, & Sloboda, 1998), although their musical self-concept has an influence (Lamont, 2011).

In relation to this problem, Watt (2000) asked whether the generalist teacher was trained to approach music teaching and, in the case of those who deliver this subject, how much security they showed in their performance. The research showed that while primary school teachers delivered other subjects with confidence, they expressed uncertainty about music, something that increased in teaching with children aged between 3 and 6. Consequently, she underlined the fact that while generalist teachers could teach music, their training was insufficient, and she also underlined the need to share the space for teaching with a specialist music teacher.

In a similar piece of work, Hallam *et al*. (2009) set out, among other objectives, to establish whether university students showed greater or lesser confidence teaching music as a subject as they do in other disciplines, find out their opinion about whether it should be in the hands of specialists, and discover whether the knowledge acquired was useful for their future teaching practice, after completion of the Post Graduate Certificate in Education (PGCE). This study involved 341 students from four higher education centres, who attended sessions of 4 and 4.5 hours per week dedicated to musical learning. The results obtained, alongside those provided by Watt (2000), reveal that, despite the good training received by the students, it was insufficient for teaching music at school as the members of the sample did not display sufficient confidence to teach the subject.

Seddon and Basutti (2008) formulated the hypothesis that through musical practice, primary education students would be able to rate their own musicality, managing, at the same time, to improve their respective artistic talents and skills, both from the perspective of execution and from teaching. To perform their study, they designed six tasks using fragments of music taken from blues standards in MIDI format. Their results showed that:

— The participants could develop autonomous learning as the research was carried out in an elearning context. The presence of the teacher in the sessions was not necessary.

— The participants could expand their musical skills without constraints, given that they did not feel that their skills were being evaluated.

In essence, the researchers underline the need to encourage generalist teachers' learning by using digital educational tools, and at the same time they justified their arguments about not giving music a special status except in an interdisciplinary context.

For their part, Adessi and Carugati (2010) emphasised that social and cultural preconceptions affected the university

students' opinions about the teaching-learning process for music, although their appraisal might change with appropriate training. Starting from this premise and taking social representation (SR) theory as a model, they studied the data they obtained using an open questionnaire which was answered by 855 students. They analysed the correlations between the «music, musicality, musical child, music teacher, and music education» concepts (313). This instrument was administered before and after the subjects took two specific modules in the 2003 to 2006 academic years. The results obtained in this study showed an appreciable change in the subjects' opinions of their social, cultural, and professional context, confirming the influence of the subject areas studied in these ratings, especially with regards to the musicality of the child.

Creativity in artistic education has also been analysed as an element to consider in the training of primary school teachers. For example, Crow (2008) studied the comprehension of this skill associated with musical development and the teaching skill of a group of higher education students, before and after delivering the subject to adolescents aged between 11 and 18. The data obtained showed that the subjects changed their opinions about creativity as their teaching experience increased, showing differences between those who thought that it could be acquired through training and others who understood it as a skill that is inherent to the individual.

Georgii-Hemming and Westvall (2010) analysed whether teacher training in music is sufficient to teach the discipline with confidence in schools. In this regard, they stated that the teachers and pupils alike seemed not to see a purpose in learning music, as its content was not clearly defined in the curriculum. At the same time, they underlined certain imbalances between the music teaching knowledge acquired while studying at university, and its real application in their subsequent teaching practice. Consequently, the research showed that the theoretical and methodological training in the subject, even in higher education, did not guarantee that new teachers acquired sufficient confidence in their knowledge to teach music in the classroom. Meanwhile, they emphasised the deep need for a major theoretical debate in education as well, from the applicable governmental areas.

In the Spanish setting, critical voices have also appeared asking what the benefits and drawbacks are of eliminating the figure of the specialist teacher. In fact, in a piece analysing the academic curriculum of the old music education diplomas at the Public University of Navarre, Ortiz (2004) completed his study by asking directly why there was no specialist teacher if, according to the legal provisions, the field of artistic education was still being kept. He also asked whether the disappearance of this figure could underpin the broad-based nature of all primary education courses.

On similar lines, Serrano, Lera, and Contreras (2007) have argued that the transformation has been performed as a result of the evaluation of the «professional profiles» of active teachers, the «profes-

sional skills», and the «European qualifications» (551). Furthermore, they state that some subjects, such as music, seem to be more adaptable to methodological and legislative changes, while the appearance of the new majors has been viewed critically, since they are at the mercy both of whether the respective universities provide them and whether the students choose them. In parallel with these ideas, discrepancies have also arisen about the suitability of the new university degrees (Pozo & Bretones, 2015). Furthermore, there is a clear contradiction in the sole presence of generalist teachers with their teaching practice covering a multitude of disciplines that they could only tackle after completing master's degrees in professional specialisation.

Roche (1994) stated that the most urgent problems with music education in Spain before the approval of the General Regulation of the Education System Law (LOGSE), 1990 included:

— The almost complete absence of music education in compulsory education, in which training and appointment of specialised teaching staff and the preparation of curricula, key to accomplishing this, were never agreed.

— The lack of institutions to channel the interest in music of enthusiastic members of the public.

— The disconnection between general education and specialised music teaching.

— The lack of higher courses dedicated to training specialised staff to teach music in the field of compulsory education.

These matters caused the subject to be relegated to the field of leisure, becoming something that formed part of the sphere of the sociocultural entertainment provided by educational centres. Furthermore, the generalist teacher who took charge of delivering the subject until the design of the diploma in music education in 1995, could not be regarded as a teacher who is competent in the discipline, if she only had a theoretical training: the development of certain highly specific methodological skills and competencies was also necessary.

For his part, Aróstegui (2006) is more emphatic in his theoretical study about the belief that music could be covered appropriately by the generalist teacher, even though to do so it was necessary to follow the directives on university education emanating from the European Higher Education Area (EHEA). According to this author, the whitepaper for the new degree in education supported this option, as it stated that the specialist should also undertake all the primary school teaching while at the same time the majors on offer disconnected the student who took them from the real situation of the labour market. In this way, it is suggested that artistic education teaching staff should, among other aims, focus their efforts on transmitting the aesthetic knowledge derived from, in this case, music, and so in this way the curriculum could be left in the hands of the specialist or of the generalist.

More specifically, Casals and Viladot (2010) studied the professional and teaching characteristics of the generalist

teacher in contrast with the music specialist, through the development of creative activities, taking as a reference point both their prior knowledge and their professional experience. To do this, they designed a pilot study in which they analysed the behaviour and the educational initiatives of 24 subjects, including specialist and generalist teachers and their respective pupils. The conclusions of this study demonstrate the importance of teaching experience in the educational specialisation, indicating that this experience is not a vital requirement in teacher training. On the contrary, they emphasised the need to work on and cover in greater depth, from the lowest levels of teaching, on performing creative activities.

Consequently, it seems to be clear that the studies consulted agree on the limited musical training of generalist teachers for their future work teaching music in primary school classrooms. Even so, they show that this problem can be resolved through a greater knowledge of the subject, and so it is necessary to increase the amount of time dedicated to theory and practice in this subject in the curriculum of the degree in primary education.

3. Objectives

The aim of this research centres on the following objectives: firstly, to establish the level of assimilation of musical content attained by primary school teaching students in three public universities in the Community of Madrid; secondly, to examine what music training they have received depending on the university where they study; and, finally, to establish what value the knowledge of music the students acquired from these courses has for them in their future teaching practice.

4. Method

4.1. Sample and Participants

The participants in this research were 301 students who had taken the music module while studying for a degree in primary school teaching at one of three of the public universities with the largest number of students enrolled in the Community of Madrid. Of these students, 207 were women (68.8%) and 94 men (31.2%), with ages of between 19 and 38 (*Mage* = 21.41). Furthermore, 34 had previous musical studies (11.3%) while 267 said that their knowledge was limited to that acquired during compulsory education (88.7%).

With regards to gender distribution, it should be noted that in Spain most primary education teachers are women (Sebastián, 2006), and so the sample obtained in this study is consistent with the proportion of teachers by gender in Spain (García-Gil & Ríos-Vallejo, 2013).

Consequently, the decision was taken to use stratified random sampling with simple allocation, regarding each of the participating centres as a stratum in which the students who had studied the music module in different morning and afternoon groups were surveyed. To determine the sample size, it was

established that the total number of students enrolled on this subject in the participating centres was 755. Therefore, taking a confidence level of 97%, a sampling error of 5%, and assuming a variance value of 50%, the minimum size of the sample should be 290 students. However, the final sample was slightly larger than the minimum, comprising 301 students (see Table 1).

TABLE 1. Sample size distributed by centres.

Centres	N (total) students	Final sample
Complutense University (1)	332	101
Universidad Autónoma (2)	288	100
Universidad de Alcalá (3)	135	100
TOTAL	755	301

Source: Own elaboration.

Before continuing, it should be noted that the curricula for the degree in primary education in each of the participating centres contain a compulsory module dedicated to learning music content. At the Complutense University it is worth 6 ECTS credits and focuses on learning of the following aspects: (a) parameters of sound, (b) elements of music, (c) musical listening, (d) improvisation, creation, and interpretation, (e) singing, and (f) rhythm and movement. At the Universidad Autónoma it is worth 9 ECTS credits and its content is structured around: (a) primary education curriculum, (b) developing educational proposals, (c) musical language, (d) history of music and Spanish folk music, (e) vocal education and movement, and (f) programming and teaching units. Finally, at the Universidad de Alcalá, it is worth 6 ECTS credits and covers: (a) elemental metric-rhythmic structures, (b) intervals, scales, modes, tonalities, and chords, (c) computer resources for basic music reading and writing, (d) acoustics, and (e) musical instruments in primary education. As can be seen, these modules have in common the teaching of content on musical language, physical expression, musical performance, and the application of music teaching resources. These are the basic foundations on which the teaching of the music education curriculum in the primary school classroom is based and are the basis for drawing up the items on the questionnaire. Similarly, to teach all of this content, generalist teachers must not only acquire exclusively musical skills but also educational ones in order to know how to the use the resources, plan activities, and relate music to the other subjects in the curriculum in a way that is appropriate to the characteristics of this stage. To do this, they must plan their activities for two

45-minute sessions per week for each of the 6 years that make up this stage.

4.2. Instrument

A questionnaire was used to collect the information, as in other studies intended to establish the musical training of primary school teachers (Russell-Bowie, 2009; Yim *et al.*, 2007).

This questionnaire comprises 14 items that measure students' degree of assimilation of the music content they will have to teach the primary school children in accordance with the established curriculum (LOE, 2006; LOMCE, 2013). A final question is also included in which the students had to evaluate, on a scale of 0 to 10, their perception of the level of musical knowledge they have attained.

The participants had to respond to the statements made in accordance with a 5-point Likert scale, in which 1 meant not at all and 5 meant a lot. Therefore, the items that compose the questionnaire were drawn up in accordance with the content contained in the music education curriculum in primary education, which is organised in three large content blocks:

— Listening: listening to different types of music, analysis of their constituent elements, expressing ideas, emotions, and feelings through music and musical language, or through other artistic expressions. Teachers work with the pupils on developing abilities in sensory, auditory, and physical recognition that facilitate their understanding of the different artistic expressions.

— Musical performance: musical works, creation and improvisation of different musical productions. The aim here is to develop individual and collective creativity in pupils and ensure they experience aesthetic pleasure, playing a leading role in creating their works. In this process, as well as musical instruments, information and communication technologies are used. Finally, cooperative work is encouraged to value, understand, reflect, and favour creativity.

— Music, movement, and dance: rhythmic movement, choreography, physical expression with musical elements, dramatic play, expressing feelings and emotions with the body, symbolic play, etc.

Next, and to be able to determine the psychometric properties of the instrument, the content validity of the questionnaire was measured. Six specialists from the field of musical education participated in this process, making a series of appraisals and suggestions that were included in the final preparation of the instrument. The construct validity was also calculated using factor analysis, which had previously been submitted to the Bartlett and Kaiser-Meyer-Olkin tests to ascertain whether the results obtained matched a factor analysis model, returning a value of .923 (Bartlett's sphericity test $\chi 2 = 2321.079$, $p < .001$), a figure considerably greater than .6, which indicated that performing this type of analysis is valid (Estévez & Pérez, 2007). Therefore, a factor analysis was performed using the principal component extraction method with varimax rotation, by which 3 factors

were extracted explaining 65.62% of the total variance. The first factor, named *Curriculum-Teaching*, grouped items 2, 6, 7, 8, 9, 10, 11, 12, 13, and 14; factor 2, *Vocal and physical expression,* comprised items 4 and 5; while items 3 and 1 comprised the *Perception and expression of musical language* factor (see Table 2).

TABLE 2. Results of the factor analysis, using the varimax rotation method.

Items	Component		
	1	2	3
10. Using teaching resources and musical materials appropriate to the educational stage	.829		
14. Using musical resources that can function as teaching strategies in non-musical lessons	.766		
11. Developing basic skills through music	.718		
6. Dramatization with music	.679		
13. Relating music to other curriculum areas, interdisciplinarity	.666		
9. Performing with school musical instruments	.651		
2. Expressing what is perceived through expression through plastic arts, narrative, feelings	.639		
7. Hearing, musical listening	.627		
8. Musical improvisation and creation	.623		
12. Planning group musical activities as a way of encouraging cooperative work, individual work, peer interaction, and independent learning	.606		
4. Singing		.807	
5. Movement and dance		.782	
3. Musical language			.855
1. Perception and expression of basic elements of music			.717

Source: Own elaboration.

To measure the internal consistency of the questionnaire, Cronbach's α coefficient was calculated, giving a value of .922 indicating a high degree of internal consistency, given that, according to Kerlinger and Lee (2008), the instruments used in educational research are located between .65 and .85.

4.3. Procedure

The students answered the questionnaires in face-to-face surveys, as this was shown to be the most effective data collection strategy (Cea, 2012). This process was carried out during the 2013-2014 academic year, after the students had completed their music modules. So, the students from the Universidad de Alcalá answered the questionnaire in January 2014, while those from the Complutense University and the Universidad Autónoma answered it in May of that year.

5. Results

The information from this research was analysed using the IBM SPSS Statistics 20 program, and the results are presented grouped according to the objectives established in this study.

Initially, an analysis of the descriptive statistics was performed of the factors in which the items from the questionnaire were grouped, the results of which are shown in Table 3.

TABLE 3. Descriptive statistics of the factors analysed.

FACTOR	N	Minimum	Maximum	Mean	Standard deviation
Curriculum-teaching	301	1.00	5.00	3.12	.823
Vocal and physical expression	301	1.00	5.00	2.91	.958
Perception and expression of musical language	301	1.00	5.00	3.14	.919

Note: 1 = not at all; 2 = not really; 3 = a bit; 4 = somewhat; 5 = very much

Source: Own elaboration.

The results shown in Table 2 indicate that the students have assimilated the content relating to the *Curriculum-Teaching* factor (M = 3.12), *Vocal and physical expression* (M = 2.91), and *Perception and expression of musical language* (M = 3.14) *a bit*.

Next, a variance analysis of the factors studied by university variable was performed (see Table 4).

TABLE 4. Variance analysis of the factors by university variable.

Factor	University	Mean	Standard deviation	F	P	Eta²	Post hoc comparisons
Curriculum-teaching	U.1 (1)	3.56	.73	30.707	.000***	.171	1,2>3
	U.2 (2)	3.05	.63				
	U.3 (3)	2.74	.87				
Vocal and physical expression	U.1	3.52	.87	49.408	.000***	.249	1,2>3
	U.2	2.87	.66				
	U.3	2.36	.94				
Perception and expression of musical language	U.1	3.41	.73	44.045	.000***	.228	2,1>3
	U.2	3.49	.87				
	U.3	2.53	.83				

***$p < .001$.

Source: Own elaboration.

As can be seen in Table 4, the results were statistically significant for all of the factors analysed. Consequently, in the *Curriculum-teaching* factor, the students from universities 1 and 2 rate this aspect higher than those from university 3. With regards to the degree of assimilation of the *Vocal and physical expression* factor, the students from universities 1 and 2 obtain a higher score than those from number 3. In the *Perception and expression of musical language* factor, the participants from universities 2 and 1 report a greater assimilation of the content of this factor than those from university 3.

In the last item on the questionnaire, the students were asked to give an overall rating, on a scale of 0 to 10, of the musical knowledge they had learnt once they had finished the module (see Table 5).

TABLE 5. Descriptive statistics of the overall rating for music training.

	Minimum	Maximum	Mean	Standard deviation
Overall rating of music training	1	10	6.72	1.77

Source: Own elaboration.

Table 5 shows that the students gave an average rating of 6.72 to the musical knowledge they had acquired during their university training.

Next, a variance analysis was performed in accordance with the university variable (see Table 6).

TABLE 6. Variance analysis of the overall rating for music training by university variable.

Factor	University	Mean	Standard deviation	F	P	Eta²	Post hoc comparisons
Overall evaluation of their musical training	U.1(1)	7.79	1.13	39.400	.000***	.209	1,2>3
	U.2(2)	6.52	1.24				
	U.3(3)	5.85	2.16				

***$p < .001$.

Source: Own elaboration.

The results shown in Table 6 were statistically significant, showing that the students from universities 1 and 2 rate the musical knowledge acquired through their training more highly than the students from university 3 did.

Finally, a Pearson correlation analysis among the ratings given by the students to the different factors of the questionnaire was performed, the results of which are shown in Table 7.

TABLE 7. Pearson correlation analysis.

	Curriculum-teaching	Vocal and physical expression
Vocal and physical expression	.748***	
Perception and expression of musical language	.518***	.534***

***$p < .001$.

Source: Own elaboration.

According to Salkind (1999), a strong correlation can be seen (if r is between .6 and .8) between the *Curriculum-teaching* and *Vocal and physical expression* factors (r = .748, p = .000). On the other hand, a moderate correlation (if r is between

.4 and .6) can be observed between the *Curriculum-Teaching* and *Perception and expression of musical language* factors (r = .518, p = .000), as well as between *Vocal and physical expression* and *Perception and expression of musical language* (r = .534, p = .000).

6. Conclusions

This research has focused on establishing what musical training is received by generalist teachers during their studies in three public universities in the Community of Madrid.

Consequently, the first objective specifically attempted to establish the degree of assimilation of the music content that, the future teachers must subsequently teach in the primary school classroom. The results obtained indicated that the students had learnt *a bit* of the content relating to the *Curriculum-teaching*, *Vocal and physical expression*, and *Perception and expression of musical language* emergent factors. This situation is clearly insufficient for tackling the teaching of the subject within certain margins of effectiveness, and furthermore, can create a lack of confidence in the performance of the future teachers, with them even avoiding teaching this subject at school (Holden & Button 2006; Rohwer & Svec, 2014; Watt, 2000). Specifically, the students give a lower score to the factor that includes singing and dance, something which shows that the pupils encounter greater difficulties when carrying out classroom activities for working on vocal and physical expression, even when the curriculum provides for covering these content areas (Cámara, 2005; Royal Decree 126/2014). However, these same graduates state that with regards to the perception and expression of musical language and the aspects referring to the curriculum and their classroom implementation, they acquired slightly more. This piece of data also shows that despite the short training period available, their level of musical competence increased in some cases.

Regarding the differences in training according to the universities where the participants in this research studied, the second proposed objective, it is necessary to note that universities 1 and 2 show the best results in all the factors analysed, namely *Curriculum-teaching*, *Vocal and physical expression*, and *Perception and expression of musical language*. These include: developing content relating to dramatization, improvisation, and musical composition; performance with school instruments; movement and dance; musical perception and expression; cooperative work through music; and singing, among other types of content that comprise the basic foundations on which the area of music in primary school is based (Conway, Eros, Pellegrino, & West 2010; Hennessy, 2009; Hourigan & Scheib 2009; Phillips, 2003; West, 2014). Furthermore, it is also necessary to consider the use of musical strategies that are useful for non-musical learning, as well as evaluating the interdisciplinary treatment of music in its relationship with the other subjects (Pellegrino, 2011).

Nonetheless, the results obtained indicate that it is vital to increase the train-

ing period to encourage an improvement in the learning of the module to help future primary school teachers in their music teaching (Russell-Bowie, 2009). This is because, while it has been shown that there are centres that give a greater teaching load to music teaching, as is the case of university 2 where the module lasts for the whole year, this does not lead to a greater level of knowledge for the students, who only attain better results in the Perception and expression of musical language factor. This reveals that there is a wide methodological range applied to the subject in each of the centres (Cain, 2007; Golombek & Doran, 2014; Strand, 2006), as can be seen in the means obtained. This circumstance also indicates that it is necessary to unify the criteria on the content imparted, so that the students learn all of the basic aspects that must be covered in primary school music teaching, and these are imparted in the same way in all educational centres.

Finally, in relation to the third objective of this work, the results obtained revealed that the overall rating the students give to the musical knowledge they acquired is a pass mark. These results underline the need to go into greater depth in music teaching to increase the students' theoretical knowledge and at the same time develop their teaching strategies to foster the proper discharge of their teaching activity in their future teaching practice (Yim *et al.*, 2007).

As for the results obtained in the Pearson correlation analysis, the relationship existing between the factors analysed was confirmed, emphasising the importance of studying all of them during the music training for students on the primary education degree, while at the same time serving to reaffirm the arguments put forth in the previous paragraph. Furthermore, the highest level of correlation corresponds to the *Curriculum-teaching* and Perception and expression of musical language factors, something that might coincide with the content that is most accessible to the students.

Ultimately, this piece of work focusses on the music training received by the future generalist teachers who participated in this study, for them to teach the content of the primary school music curriculum, and it concludes that music training must be increased for all of the factors analysed. Having reached this point, it is also necessary to ask what music training generalist teachers should have and, in the Spanish context, reflect on the role that specialists must adopt. Whatever the response, it would be highly advisable to offer specialisation courses to complete the music training of future primary school teachers, through which a quality musical education can be guaranteed that helps primary school children to approach and enjoy music.

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