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The Relationship between Music and Second Language La relación entre Música y Segunda Lengua

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The Relationship between Music and Second Language

La relación entre Música y Segunda Lengua

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RESUMEN

El presente estudio nace de un proyecto de investigación e innovación docente titulado *iPlay School of Music and Languages*, participado por el Grupo de Investigación HUM-1006, Trinity College España-Portugal, y la Delegación Territorial de Educación, Deporte, Igualdad, Políticas Sociales y Conciliación de Córdoba, que prevé la impartición de clases de música teórica e instrumental en inglés. El objetivo de este estudio es indagar sobre la existencia de una relación entre música y segunda lengua a través de un cuestionario distribuido entre 32 estudiantes de entre 7 y 9 años de edad sobre el gusto de los participantes, sus hábitos de práctica y estudio y las capacidades en ambos ámbitos. Los resultados confirman la existencia de tal relación y las conclusiones indican que es conveniente profundizar en la investigación para descubrir de qué manera los dos procesamientos pueden beneficiarse mutuamente, con el objetivo de potenciar el aprendizaje en ambas áreas.

PALABRAS CLAVE

MÚSICA, SEGUNDA LENGUA, APRENDIZAJE, RELACIÓN MUTUA, INNOVACIÓN

ABSTRACT

This study stems from a research and teaching innovation project entitled *iPlay School of Music and Languages*, in collaboration with the HUM-1006 Research Group, Trinity College Spain-Portugal, and the Territorial Delegation of Education, Sport, Equality and Social Policies of Cordoba, which provides for the teaching of theoretical and instrumental music classes in English. The aim of this study is to find out whether exists a relationship between music learning and second languages learning by means of a questionnaire distributed among 32 students aged between 7 and 9 years old on the participants' taste for these two disciplines, their practice and study habits and their skills and competences in both areas. The results confirm the existence of such a relationship and our conclusions indicate that further research is desirable to discover how the two processes can benefit from each other, with the aim of enhancing both music and second language learning.

KEYWORDS

MUSIC, SECOND LANGUAGES, LEARNING, MUTUAL RELATIONSHIP, INNOVATION

INTRODUCTION

The present study investigates the existence of a possible relationship between music learning and second language learning, as it represents part of the experimental phase that stems from a previous theoretical research on language learning, music and bilingualism. In such research, the main characteristics of the three areas mentioned were investigated in order to discover whether music can be considered a language to all purposes and whether it can be considered a second language (L2) with respect to the first language (L1), in the same way as it can be considered a “foreign language” in cases of bilingualism (i.e. L1 + music). We refer to “bilingualism” in the sense that De Houwer and Ortega (2019, p. 3) do: “The learning of more than a single language variety is where bilingualism begins”.

As for considering music as a language, an in-depth analysis of the literature in the two areas has led to the conclusion that it is possible to speak of musical language thanks to the numerous parallels between them. Starting with the origins, both music and language have a distant origin in time that, although not identifiable at a precise moment in history, is born from the need for communication among human beings (Chomsky, 1972; Lewis, 1993; Sachs, 2014). The essence and primary function of these two disciplines also derives from the origin: to be forms of expression, communication and, as such, forms of human behaviour (Weinstock, 1969; Fromkin, Rodman, and Hyams, 2003). In both cases, the transmission of the message through sound has an oral form and a written representation (Lewis, 1993; Allorto, 2005).

From a study on the nature of music and language, it has been possible to observe in both cases the existence of components that are innate to the human being and which allow the development of certain abilities in a natural way on condition that, in both situations, help to verify if exposure to language and to music has a relation (Sloboda, 1985; Hepper, 1991). In fact, according to Chomsky’s Universal Grammar Theory, language develops innately in all individuals through the elaboration of a grammar due to exposure to language from birth, subsequent practice and creativity (Chomsky, 1986; Lewis, 1993; Goodman, Dale, & Li, 2008). On the other hand, music provides for the development of innate components such as sound -represented by the voice- and rhythm -represented by brain activity, breathing and heart activity- essential for any form of musical exercise and with which all human beings are endowed. In the case of music, however, these elements may not develop naturally due to, for example, a lack of exposure (not to be taken for granted, as is often the case with language) or the need for musical experiences or active study to drive the process and thus take time to manifest (or even remain non manifested) (Sloboda, 2005).

In this respect, the two disciplines examined share a double structure. Language - according to Chomsky’s Theory of Generative Grammar- is endowed with a deep structure common to all individuals consisting of grammatical elements common to all languages, which, thanks to the innate human capacity for understanding, transformation and creation enable man to generate language. In the same vein, music is endowed with a deep structure consisting of all the human psychological and physiological processes of the one who creates the musical product (mostly common to all individuals). Parallel to this, language is endowed with a surface structure which is identified in the audible form of language that varies in each language (considering that each one “sounds” different from the others) and of which all language-specific

connotations (graphemes, combinations of sounds, etc.) are a part. In the same way, music is endowed with a surface structure that is identified in the audible form of language that varies in each language (considering that each one “sounds” different from the others) and of which all language-specific connotations (graphemes, combinations of sounds, etc.) are a part. Then, music is endowed with a surface structure which is identified in the audible form of music and which varies according to the cultural, social and geographical context in which the musical product has been generated, making each music sound different from others (Blacking, 1974; Chomsky, 1975; Lewis, 1993).

Continuing with the comparison between the two areas (i.e., language and music), coincidences also emerge in relation to their constituent elements. In both cases, sound and rhythm are central elements. The former manifests itself in language through oral form and pronunciation, and in music through the audible form of musical works, whether these are transmitted by the human voice or by a musical instrument. The latter manifests itself in language as metre and accentuation, while in music it is one of the aspects of musical time -the most natural one- that represents the ‘heart activity’ of music, punctuating and partitioning musical discourse: it is an element that remains constant over and above the time it can accelerate or decelerate. Moreover, from a general point of view, both music and language have a set of organising rules, gathered under the name of grammar, of which phonology, syntax and semantics are also common (Copland, 1954; Lerdahl & Jackendoff, 1983; Lewis, 1993; Fromkin et al., 2003).

Finally, language includes the development of skills (listening, speaking, reading and writing) and competences (reception, production and interaction), as well as different functions depending on the type of message to be expressed (Dale, 1980; Lewis, 1993; Council of Europe, 2018). In the same way, music provides for the development of skills (listening to sounds, reproducing vocally or by means of a musical instrument, reading and writing musical notation) and competences (reception, production and interaction), as well as possessing specific functions which, for both music and language, converge in three common purposes: expressive, communicative and social (Bühler, 1934; Jakobson, 1963; Merriam, 1964; Halliday, 1978).

In line with the analogies described above and based on the literature corresponding to each area, it is possible to affirm that music is a language. But would it be possible to consider it as a second language with respect to the mother tongue, as it happens with a foreign language in bilingualism?

Certainly, on the basis of the analysis carried out herein, every aspect that language and music have in common is applicable to any language, whether this is either a first or a second language. So, in order to establish a parallelism between music as a second language, it is convenient to look for relations between the two areas under further points of view. From the study of the literature, both in the field of bilingualism and in the field of music, parallels emerge in terms of learning processes. The element in which the second language differs from the first language lies in the fact that the learning process can take place from birth as well as starting later. In the case where second language learning takes place from birth (from before birth until the age of three), the process will be simultaneous with first language learning and there will be two simultaneous processes in two different directions through exposure to the two languages, which will benefit from the innate components of being human.

On the other hand, in the case where second language learning starts later -from the age of four years onwards- there are two distinct learning experiences in terms of second language learning, which will not fully benefit from the innate processes of the early stages of life and is thus achieved through different phases of learning through specific means such as study, practice, lessons and exposure (Bley-Vroman, 1989; Harrington, 1992).

Similarly, in the case of music, the same double possibility of development exists. If, on the one hand, music learning can develop from birth through exposure and a specific favourable context, benefiting from the innate components of being human, on the other hand, it can be the case that, due to lack of exposure and other circumstances, the learning process does not develop innately, thus requiring, from the age of three or four different learning stages and strategies such as study, practice and exposure (Sloboda, 1985; Hepper, 1991; Sloboda, 2005).

On the basis of the analogy established, we will analyse if there exist reasons for considering music as a second language. Then, we will investigate whether there is an intrinsic relationship between the two learning processes and, if so, on what elements such a relationship is based.

The *iPlay School of Music and Languages* project was developed to explore this relationship in greater depth. The main aim of this project is to bring together music and second language learning in order to investigate in a practical way the benefits that music learning brings to second language learning and vice versa.

The general objective of this research is to find out whether there is a relationship between second language learning and the learning of musical language, based on three hypotheses: a. There is a relationship between a taste for music and a taste for English as a foreign language; b. There is a relationship between the study of music and a taste for English as a foreign language; c. There is a relationship between the study of music and having a good competence in both the first and the second language.

The first hypothesis has given rise to the following two specific objectives:

- *Specific Objective no. 1:* To find out whether liking for participation in musical activities is related to liking for English.
- *Specific Objective no. 2:* To find out whether liking for participation in musical activities is related to liking to read in English.

The second hypothesis has given rise to the following specific objective:

- *Specific Objective no. 3:* To find out whether studying music is related to liking English.

The third hypothesis has given rise to the following two specific objectives:

- *Specific Objective no. 4:* To find out whether initiation to music is related to having good Spanish reading ability.
- *Specific Objective no. 5:* To find out if the initiation to music is related to having a good competence in English.

METHODOLOGY

Context and participants

This study involved 34 pupils aged between 7 and 9 years old, who are in the 2nd, 3rd and 4th years of Primary Education at a Primary School in Cordoba. These pupils, in the programme provided by the *iPlay School of Music and Languages*, receive music

lessons -both theoretical and practical, with the guitar- in English, for 3 hours a week (divided into two sessions of 1.5 hours each), distributed in 2 groups of 17 students.

Instrument

The instrument of this study is a questionnaire developed and presented on paper to the 34 students of the *iPlay School of Music and Languages*. The questionnaire was validated by using the Delphi method. It consists of 40 questions distributed into two blocks corresponding to the two main fields of this study: A. Music and B. Languages. The questions were divided into three typologies according to the type of response: Likert scale (1 = Not at all, 4 = Very much); dichotomous (Yes - No); and multiple choice.

Procedure

The elaboration of this work involved different phases. Firstly, a review of the literature was necessary in the three areas covered by this research: language, music and bilingualism, with the aim of drawing up a comparative study between their constituent elements and their learning processes, so that we could establish parallels. Subsequently (October 2019), data were collected from the 34 participants by distributing a survey written in Spanish, the students' first language. Out of the 34 students, 32 responded to the survey. The questionnaire was validated through the Delphi method and obtained a coefficient of 0.920 in Cronbach alpha, providing a high credibility and internal consistency of the object of study according to Oviedo and Campo-Arias (2005).

RESULTS

The data collection results of the present study are presented below, following the order of the five specific objectives defined.

In relation to the first specific objective (“to find out whether liking to participate in musical activities is related to liking English”) we proceeded to the analysis of the answers to question 12, which interrogated students about their liking to participate in musical activities, in comparison with the answers to question 38, which asked students about their liking for the L2, both on a Likert scale ranging from 1 (= not at all) to 4 (= very much), where the value 99 refers to missing data (Table 1):

Table 1

Relationship between liking music activities (Q12) and liking English (Q38)

Q12	Q38			
	1	2	3	4
1	0	0	0	0
2	1	0	1	1
3	1	2	3	0
4	0	1	9	8
99	0	1	4	0

Note. Authors' own elaboration

The second specific aim of this work is to find out whether the liking for participating in musical activities (question 12, on a Likert scale ranging from 1 (= not at all) to 4 (= very much)) is related to the liking for reading in English (question 26, with dichotomous answer 1= Yes - 2= No). The value 99 refers to students who did not answer the questions. Data can be found in table 2 below:

Table 2
Relationship between liking music activities (Q12) and liking reading in English (Q26)

	Q26		
Q12	1	2	99
1	0	0	0
2	0	3	5
3	1	5	0
4	2	16	0

Note. Authors' own elaboration

In order to answer the third specific objective of this research, i.e. “to find out whether the study of music is related to a taste for English”, we proceed to the analysis of question 9, concerning how many months per year the pupil regularly participates in musical activities, and question 38, concerning the taste for English, where the value 99 indicates pupils who respectively do not participate regularly in musical activities and have no taste for English (Table 3):

Table 3
Relationship between participation in musical activities (Q9) and liking English (Q38)

	Q9												
Q38	1	2	3	4	5	6	7	8	9	10	11	12	99
1	0	0	0	0	0	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	0	0	0	0	0	4
3	2	1	0	0	0	0	0	1	2	1	0	0	10
4	0	0	0	0	0	1	0	1	0	1	0	1	5

Note. Authors' own elaboration

The fourth specific objective aims to find out whether initiation to music (multiple-choice questions 9 and 13) is related to having good Spanish reading ability (question 33, on a Likert scale ranging from 1 (= very good) to 4 (= bad)). Note in table 4 the relationship between participation in musical activities (from 1 to 12, according to the number of months per year in which they regularly participate in musical activities) and having good reading ability in Spanish, and in table 5 the relationship between exposure to music (in terms of reception) per week (from 1 (= 30 minutes or less) to 4 (= more than 4-6 hours)) and having good reading competence in Spanish. As in the previous cases, the value 99 indicates students who did not answer the questions.

Table 4
Relationship between participation in music activities (Q9) and having good reading ability in Spanish (Q33)

	Q9												
Q33	1	2	3	4	5	6	7	8	9	10	11	12	99
1	2	0	0	0	0	0	0	0	1	0	0	0	6
2	0	1	0	0	0	1	0	2	1	2	0	1	10
3	0	0	0	0	0	0	0	0	0	0	0	0	5
4	0	0	0	0	0	0	0	0	0	0	0	0	0

Note. Authors' own elaboration

Table 5
Relationship between exposure to music (in terms of reception) per week (Q13) and having good reading ability in Spanish (Q33)

	Q13				
Q33	1	2	3	4	99
1	0	3	4	2	0
2	1	9	5	2	1
3	0	3	2	0	0
4	0	0	0	0	0

Note. Authors' own elaboration

We move on to the fifth and last objective of this study (i.e. “to find out whether initiation to music is related to having good English competence”), for which we proceed to analyse questions no. 9 and 13 (multiple choice) on practising and listening to music and question 37 (on a Likert scale ranging from 1 (= very good) to 4 (= bad)) on English ability, data that can be found respectively in tables 6 and 7 in which the value 99 indicates the students who have not answered the questions:

Table 6
Relationship between participation in music activities (Q9) and having good English ability (Q37)

	Q9												
Q37	1	2	3	4	5	6	7	8	9	10	11	12	99
1	1	0	0	0	0	1	0	1	0	0	0	1	3
2	0	0	0	0	0	0	0	1	2	2	0	0	10
3	1	0	0	0	0	0	0	0	0	0	0	0	6
4	0	1	0	0	0	0	0	0	0	0	0	0	1
99	0	0	0	0	0	0	0	0	0	0	0	0	1

Note. Authors' own elaboration

Table 7
Relationship between exposure to music (in terms of reception) per week (Q13) and having good English ability (Q37)

	Q13				
Q37	1	2	3	4	99
1	0	2	2	2	1
2	1	7	6	1	0
3	0	5	2	0	0
4	0	0	1	1	0
99	0	1	0	0	0

Note. Authors' own elaboration

DISCUSSION AND CONCLUSIONS

The results of the present study show that there is a relationship between music learning and second language learning. The specific objectives have helped us to identify some of the aspects in which the two areas are interconnected.

We proceed to the analysis of the first two specific objectives of this research. The first objective compares the data on enjoyment of participation in musical activities and enjoyment of the second language. The results indicate that for 20 pupils out of 32, enjoyment of the second language coincides with enjoyment of music, having answered both questions either quite a lot or very much. This proportion allows us to affirm that, in a good number of cases, the taste for music coincides with the taste for the second language. This high percentage of coincidence may be attributable to the fact that pupils identify new forms of expression with a communicative function in both disciplines which, representing a primary human need, easily arouse their interest and enjoyment (Bühler, 1934; Jakobson, 1963; Merriam, 1964; Weinstock, 1969; Halliday, 1978; Fromkin, Rodman, & Hyams, 2003).

The second specific objective relates the enjoyment of participation in musical activities to the enjoyment of reading in English -of which we mean to refer especially to the aspect of pronunciation aloud. In this case, the two aspects coincide fully in 3 pupils, but it is interesting to note that, of the remaining 24 pupils -who have answered both questions- 21 show between quite a lot and a lot of liking for music, even though they do not like reading in English. This low percentage of correspondence between liking reading in English and liking music is not necessarily negative, but may be due to the fact that reading in the second language is, in the early stages of learning a foreign language, a difficult and unusual activity for most learners. It should also be considered that almost all learners lack the continuous exposure and daily practice of the second language typical of bilingualism from birth, so that the subjects are undergoing learning phases which exclude most of the innate resources (Bley-Vroman, 1989; Harrington, 1992). Nevertheless, these results allow confirmation of our first hypothesis.

Moving on to the third specific objective of our work, it is interesting to note that, contrary to the results of the previous objective, when relating music study to a taste for English, our work indicates that the 11 students who answered both questions

regularly practise a musical activity between 1 and 12 months per year, and they also show between a lot and very taste for English. Considering that the remaining 21 did not answer in relation to the practice of musical activities, this result confirms that, in those who are initiated to a musical activity, the taste for the second language is manifested, due to the fact that the development of the innate musical components - i.e. sound and rhythm- through practice implements the development of receptive competence which enables the learner to distinguish -and, consequently, more easily appreciate- the new “sounds” of the second language, as well as its “musicality” or “rhythm”, i.e. its surface structure (Blacking, 1974; Chomsky, 1975; Dale, 1980; Sloboda, 1985; Hepper, 1991; Lewis, 1993; Sloboda, 2005; Brown, Martínez & Parsons, 2006; Council of Europe, 2018). The second hypothesis of our research is therefore also confirmed.

We now turn to the last two specific objectives concerning the relationship between initiation to music (understanding both exposure and study) and having a good competence in both the first and second language. The results of the fourth objective concerning the relationship between music initiation and having good reading competence (in the aspect of pronunciation and fluency) in Spanish show that 25 pupils out of 32, who listen to music between 1 and 3 hours to more than 4-6 hours per week, report being good or very good at reading in Spanish. At the same time, 11 pupils (out of 32) who regularly practise music activities between 1 and 12 months a year claim to have very good or good reading skills in Spanish. These results clearly indicate that the ear and rhythm training developed through regular exposure to music and regular practice implements the competence to receive sounds -both musical and linguistic- and, consequently, to reproduce them (Copland, 1954; Blacking, 1974; Dale, 1980; Lerdahl and Jackendoff, 1983; Sloboda, 1985; Hepper, 1991; Lewis, 1993; Fromkin et al., 2003; Sloboda 2005; Council of Europe, 2018).

Similarly, the results for the fifth specific objective, which asks about the relationship between having an introduction to music and having good English language competence, are similar. The data show that 20 pupils out of the 32, who listen to music from 1-3 hours to more than 4-6 hours per week, state that they are good or very good at English. At the same time, 11 pupils (out of 32), who regularly practise music activities between 1 and 12 months a year, claim to have very good or good ability in English. The results show, in line with specific objective 3, that the pupils who are initiated in music -including both the practice of musical activities and the habit of listening to music a certain number of hours per week- show good or very good ability in English, confirming that the benefits analysed above for the Spanish language can be applied to the second language, especially when second language learning starts from the age of 4 and does not benefit from innate processes, but develops through phases of learning (Bley-Vroman, 1989; Harrington, 1992; Besson, Schön, Moreno, Santos & Magne, 2007; Chobert & Besson, 2013). Considering that in the last two specific objectives (i.e. in both cases) missing data refer to the lack of response in relation to musical practice, these results confirm the third hypothesis put forward regarding students who are initiated in a musical activity.

On the basis of the analysis of the five specific objectives, we can affirm that the results confirm that there is a relationship between a taste for music and a taste for English as a foreign language. However, it can be considered premature to associate a taste for music with the activity of reading in the second language for the reasons mentioned above. The existence of a relationship between the study of music and a

taste for English as a foreign language is also confirmed, as is the existence of a relationship between the study of music and having good linguistic competence in both the first and second language (Besson, Schön, Moreno, Santos & Magne, 2007; Pastuszek-Lipinska, 2008; Chobert & Besson, 2013; Toscano Fuentes & Fonseca Mora, 2013).

This study is only the beginning of our research and therefore more data samples will be needed from a larger number of pupils of different ages and varied levels of education. It would also benefit from application to further foreign languages (e.g. Italian, French, German, among others) to investigate possible differences and application to more musical instruments (among which the piano due to its innate orchestral nature, and percussions would be particularly interesting) to investigate all musical and linguistic aspects in more depth.

However, it should be remembered that the purpose of this research is not to demonstrate that music learning is necessary for second language learning, but that there are interesting relationships between the two processes that can influence each other, with the aim of enhancing both the learning and the cognitive skills of the learner, improving competences in both areas.

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