



ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/crid20

# Hidden communication codes in flamenco dance choreography

Irene Baena-Chicón, Sebastián Gómez-Lozano, María R. Fernández-Falero, Olaia Abadía García de Vicuña & Alfonso Vargas-Macías

To cite this article: Irene Baena-Chicón, Sebastián Gómez-Lozano, María R. Fernández-Falero, Olaia Abadía García de Vicuña & Alfonso Vargas-Macías (2023): Hidden communication codes in flamenco dance choreography, Research in Dance Education, DOI: 10.1080/14647893.2023.2220660

To link to this article: https://doi.org/10.1080/14647893.2023.2220660



Published online: 08 Jun 2023.



Submit your article to this journal 🕑



View related articles 🗹



View Crossmark data 🗹

#### ARTICLE

Routledge Taylor & Francis Group

Check for updates

# Hidden communication codes in flamenco dance choreography

Irene Baena-Chicón (D<sup>a,b</sup>, Sebastián Gómez-Lozano (D<sup>a</sup>, María R. Fernández-Falero<sup>c</sup>, Olaia Abadía García de Vicuña<sup>b</sup> and Alfonso Vargas-Macías (D<sup>b,d</sup>

<sup>a</sup>Universidad Católica San Antonio de Murcia, Performing Arts Research Group, Murcia, Spain; <sup>b</sup>Department of Biomechanics and Health, Centro de Investigación Flamenco Telethusa, Cadiz, Spain; <sup>c</sup>Department of Information and Communication, Universidad de Extremadura, Badajoz, Spain; <sup>d</sup>Hermes CTS601 Research Group, University of Seville, Seville, Spain

#### ABSTRACT

Flamenco dance is emblematic of southern Spain. Its performance uniquely combines dancing, singing, and guitar playing. Improvisation differentiates it from other dances and this requires communication codes so that performers remain synchronised. The communication codes are: 'llamada', a signal to start singing; 'remate', for ending a section; 'subida', for speeding up the rhythm; and 'desplante', a static pose ending the others communication codes. This article describes these codes and analyses how they are used during performances. Thirty professional flamenco shows have been analysed and at least one of these communication codes was recorded in all these performances. The remate is observed in all; the desplante in 96.6%; and the llamada and subida were both identified in 66.7%. This information is relevant for choreographers, teachers, and students. The incorporation of communication codes into the curriculum for flamenco dance at schools would guarantee that students are properly trained for professional performances.

#### ARTICLE HISTORY

Received 26 August 2022 Accepted 30 May 2023

#### **Keywords**

Interaction; flamenco dancer; musician; curriculum; performer; step footwork

# Introduction

Flamenco is one of the most prominent identity symbols for Andalusia, a region in the south of Spain (Machin-Autenrieth 2015). It embodies the culture and language of Andalusian populations (Moon 2015; Ropero 1995). The music and dance are deeply structured and were birthed from a population's need to express itself (Cuellar-Moreno 2016b). The flamenco performance is a unique combination of singing, dancing and guitar playing. Its richness results from combining the evolution, interaction and wealth of several cultural, musical and dance traditions (Mora et al. 2016). Flamenco has its origin in Andalusian popular culture, a land that has been influenced by the many cultures that have passed through it: Tartessos, Phoenicians, Greeks, Carthaginians, Romans, Visigoths, Byzantines, Arabs, Jews, Castilians, Africans and Romani (Navarro 2002). This combination has led to a symbiosis that has transcended national boundaries

**CONTACT** Alfonso Vargas-Macías vargas@flamencoinvestigacion.es Department of Biomechanics and Health. Telethusa Centre for Flamenco Research, Cádiz, Spain; Hermes CTS601 Research Group, University of Seville, Seville, Spain © 2023 Informa UK Limited, trading as Taylor & Francis Group (Navarro and Pablo 2005). Today, flamenco has moved beyond borders and nationalities to be recognised and assimilated, both nationally and internationally (Cuellar-Moreno 2016a; Washabaugh 1995). As evidence of this, the United Nations Educational, Scientific and Cultural Organisation – UNESCO – has declared flamenco an example of 'Intangible Cultural Heritage' since November 2010 (UNESCO 2010). This recognises it as a cultural product that has been preserved and passed down through the generations.

In its early days, popular flamenco belonged to the realm of celebrations and social activities. Romantic travellers of the nineteenth century such as Richard Ford (1855), Alexandre Dumas (1854) or Charles Davillier (1874) recorded how these songs and dances livened up parties and social gatherings of the time. Flamenco songs and dances were performed within the intimacy of family and cultural group settings. Therefore, it was passed down orally from grandparents to grandchildren, parents to children, masters to disciples (Quiñones 1992). Today, despite the fact that flamenco has moved from the setting of popular celebrations to theatre performances, it holds onto the specific characteristics that make this art authentic.

Traditionally, the flamenco show is performed by a minimum of three performers: a singer, a guitarist and a dancer. In flamenco jargon, the singer is called a 'cantaor' (male) or 'cantaora' (female); the singing is called the 'cante'; the guitarist is called the 'tocaor' (male) or 'tocaora' (female); the guitar music 'toque'; the dancer is called a 'bailaor' (male) or 'bailaora' (female); and the dance is called 'baile'. These performers are the basic components of a flamenco performance, to which can be added other musical elements.

It was the singing tradition that birthed and developed Flamenco music (Gamboa 2005). The music is categorised into different flamenco styles called 'palos' of which there are more than 70. These are in turn subdivided into several variants (Martínez 2010). The singing reflects the rhythmical, expressive and emotional characteristics of the performance. The most representative styles or 'palos' include: 'bulería', 'alegría', 'soleá', 'seguirilla' and 'tango'.

The guitarist coordinates the musical side of the performance. Following the dancer's lead, the guitarist gives instructions to the singer and any other musician accompanying the performance, such as the person who claps ('palmero') or other musicians playing instruments, for example, the cajon box drum, viola, mandolin, cello, piano or flute (Piulestán 2020).

The choreography connects all the performers. The dancer leads the performance and is considered to be the director of everything that happens on stage. Therefore, the singer, guitarist, and any other musician showcase the dancer during the performance.

All the performers are synchronised thanks to a few communication codes that are specific to the flamenco language. The type of communication that takes place in a flamenco performance forms part of its identity. The codes used between artists in a flamenco performance can only be deciphered by those who know these signals as they are totally integrated into the artistic performance. If the dancer does not know these codes and does not know how to interpret them, the interaction between the performers will not be very efficient and it will affect the success of the choreography.

Improvisation and spontaneity are other characteristics inherent to the flamenco performance. They play an important role and require stable musical and choreographic organisation and structure (Mora et al. 2016; Pohren 2005). The audience does not notice

the improvisation thanks to the subtle interaction and communication between vocalist, guitarist and dancer (Goulet 2007).

Flamenco dance has made a great impact in recent years as it has become widely known and performed around the world. There is a high demand for teaching that extends beyond the borders of Spain (Cuellar-Moreno 2016a). This dance has been taught in meeting rooms and performance arts schools in Andalusia since at least the nineteenth century (Navarro 2002). In Spain, in addition to these private dance schools, it can be studied in publicly-funded dance schools and professional dance conservatoires. Seville and Jerez, two towns in the south of Spain, are international centres that use their festivities to teach flamenco (Festival de Jerez 2022; La Bienal de Sevilla 2022). Subsequently, resources (especially technological) have been developed and made available to improve, develop and teach flamenco (Cuellar-Moreno 2016a). Some private dance schools offer the possibility of taking classes via live webcam and provide teaching videos to teach flamenco dance techniques (Losa 2022; Estudio 2022). This means that it is broadcast internationally and can be tailored to each individual. In short, teachers and students from all over the world could benefit from research that explores communication codes in flamenco dancing.

Every dancer aims to achieve correct technique (Paparizos et al. 2004). However, there are another two skills that are important in flamenco choreography: the expressive aspect used to transmit emotions intrinsic to this type of dance; and the correct use of communication codes which are necessary for the performance to be a success. Yet in spite of this, communication codes are not included in the subject content of official flamenco dance course curriculums in professional dance conservatoires in Spain (Andalusian Government 2007; Spanish Government 2007). Furthermore, to the best of our knowledge, neither does it play an important part in flamenco teaching in private schools. We think that it is important to include this missing aspect in professional at the end of their training.

Therefore, the aim of this article is to describe and analyse the use of communication codes in flamenco which regulate the interaction between the vocalist, guitarist and dancer during a performance. This knowledge can be used by choreographers, teachers and students.

#### Flamenco dance characteristics

Flamenco dancing is a percussive and emotive dance from Andalusian popular culture. The percussion is performed by the feet using specific high-heeled shoes (Figure 1) (Wilmerding, Gurney, and Torres 2003).

Thus, the dancer is a musician too, more specifically, a percussionist. He or she performs footwork steps according to rhythmic patterns unique to flamenco music (Goulet 2007; Pedersen and Wilmerding 1998). For this reason, the dancer must master the use and knowledge of rhythm.



Figure 1. Traditional flamenco dance shoe.

But flamenco dancing is also renowned for being an emotive dance. Emotions are used by the dancer to elicit empathy from the audience. Emotions passed down from ancestors such as happiness, sadness, passion or pain, are expressed through the upper torso: facial expressions as well as hand, arm and trunk movements (Pohren 2005; Washabaugh 1995).

Another aspect that characterises flamenco dance is spontaneity (González 2011). It is such an inherent part of flamenco dancing that many dancers rarely repeat their choreographies the exact same way twice. Like jazz music, improvisation is built up according to the characteristics of different flamenco styles, known as 'palos'. In addition, the dancer adjusts the structure of the choreography to the guitarist and singer for each performance (Goulet 2007). During the dance, the performers communicate among themselves interacting through communication codes specific to flamenco. In this way, the spontaneity goes unnoticed by the audience because the performance unfolds smoothly.

Physical effort is another aspect relevant to flamenco dancing. As in ballet, the dancer is considered to be a performing athlete (Koutedakis and Jamurtas 2004). High levels of effort can be required during professional performances, similar to those seen in elite athletics (Pedersen et al. 2001). During a flamenco dance, the dancer performs an average of four steps a second, which can reach frequencies of up to 12 steps a second (Vargas 2006).

# The interaction of the dancer with the musicians during the flamenco choreography

Flamenco dance is recognised for its soloist choreography, i.e. there is only one dancer on stage. He or she is always accompanied by at least one guitarist and vocalist, but there may be more musicians.

Flamenco dance choreography is known for its dancer's originality, creativity and spontaneity. No choreography is like another, because each artist uses his or her own compositions and movements. These movements are produced according to the personality of the dancer (Baena-Chicón 2016) and the emotions felt at the time of the performance. It could be said that although the dancer may perform the same choreography more than once, each time it is interpreted differently. This is affected by what the dancer is experiencing at the time of the performance.

In essence, there are two distinct parts in flamenco dancing (Vargas, González, and Mora 2010) and they relate to the use of footwork or its absence. In the latter, the dance and expressive aesthetics focus on the arm and trunk movements whilst in the former, the focus is on the dominance of the footwork and musicality. Biomechanically, they are differentiated by the level of effort required (Vargas et al. 2008) as the footwork parts require greater energy expenditure. The choreographic composition in flamenco dance is based on alternating sections requiring the presence of footwork with those that do not. The dancer will decide to change from one section to another depending on how much physical effort is required and their emotional state at the time. This way, they avoid getting too tired.

Before the performance, the dancer gathers the musicians together and they agree on how they will structure the choreography. Sometimes there are no rehearsals for the flamenco performance and they only have this verbal agreement as a guide. Therefore, the flamenco performance is based on improvised contexts. They alternate parts that require greater physical effort with ones more focused on emotions. The vocalist and guitarist are present in every section of the structure, supporting the choreography.

The dancer uses some signals to warn the vocalist and guitarist that a section in the agreed structure is going to change. The dancer uses codes to interact with the musicians during the performance without the audience noticing as it is integrated into the choreography. If the language of this interaction is unknown, it is difficult to guess that it exists.

Some of the reasons to change the choreographic structure agreed include:

• The performance of the dancer. If he or she is not in his or her best condition, they will opt for sections that are not as physically demanding. If his or her performance is optimal, he or she may even decide to introduce new sections into the choreography.

• The mood of the dancer. The choreography will be changed to include parts that are more or less emotional.

• Wardrobe choices. One of the feminine items of clothing that most affects the choreographic composition is the long-tailed skirt or 'Bata de cola' in Spanish (Figure 2). This skirt, or dress, has a long train like that of a bride and if it gets wrapped around the dancer's legs or causes any other type of inconvenience, the dancer has to improvise while she waits for it to be released and then she will communicate new instructions for the choreography to be continued.

• The stage space. The choreography is affected by the size of the stage. If the dimensions of the space are not what were expected, the dancer will readjust the choreography. Some flamenco shows are performed on large theatre stages whereas

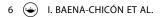




Figure 2. Flamenco dancer dressed in a long-tailed skirt.

others take place on smaller stages such as those found in typical flamenco 'peñas', a type of social club for flamenco enthusiasts.

• The length of the performance. There are no set lengths for each 'palo' or flamenco style. Rather, each artist determines the length of the dance according to his or her choreography. Furthermore, the duration can be slightly modified during the live performance. This may be in response to the reactions or feedback of the audience, the physical state of the dancer, or even the artist's mood. In other words, the length of the dance adapts to the lived reality of the moment. For this reason, the exact length of the performance is unknown but an estimate is known. If the length is shorter than the singers and musicians were contracted for, they will include new sections.

• Technical conditions of the premises. If a technical feature fails such as the tone of the floor; the speakers for the musicians or in the room in general; or if there is a lot of background noise, the dancer will have to improvise to rectify these problems. For example, if the speakers are not working, the footwork sections will need to be performed closer to the musicians so they can synchronise with the dancer. This will require changes to the agreed structure.

# The dancer's communication codes

Flamenco choreography teaching focuses on body technique, footwork and most importantly, artistic interpretation. When a student has mastered this, they move onto the next level of learning which is based on these communication codes.

The following section will describe the main communication codes used by flamenco dancers to interact with the musicians. The main codes communicated through their dance are: 'desplante', 'llamada', 'remate' and 'subida'. These codes can be used independently, but they normally interact with each other.

### 'Llamada', a signal to start singing

This is the most important way that flamenco artists communicate during their performances. It is the way that dancers signal to their accompanists that they want the vocalist to start singing. The 'llamada' calls/signals the singer to begin (Arranz 2012; González 2011). When the guitarist and vocalist see and hear the 'llamada', they get ready to start the lyrics directly after the dancer finishes this part.

The 'llamada' consists of a set of movements that mostly use footwork (Vargas 2006) to which the dancer can also add turns and clapping (Baena-Chicón 2018). It is usually recognised by some technical gestures that are performed at the beginning. For example, in a flamenco style or 'palo' called 'bulerías', the dancer strikes the ground three times, normally with the right foot. In a style called 'tangos', it usually consists of a side step (Figure 3). More experienced dancers can modify this opening and use similar choreo-graphic variations. The rest of the choreography is freely chosen by the dancer. It could involve more footwork and/or turns and/or clapping.

In a single flamenco dance, the dancer will use an indeterminate number of 'llamadas' as it depends on the needs that arise during the performance.

#### 'remate', for ending a section

The definition of 'Rematar' is 'finish off' or 'kill off'. In flamenco dance, 'Rematar' or 'do a remate' is when the dancer uses a footwork sequence to conclude a section of singing or music (Figure 4) (Goulet 2007).

The dancer uses the 'remate' to warn the vocalist and guitarist that he or she wants to finalise the section of the dance that is being interpreted at that moment (Arranz 2012; Pablo and Navarro 2007). This 'remate' is usually introduced into the choreography in one of two ways. It can either be integrated into the end of a section in a synchronised manner or the 'remate' can be inserted immediately after the end of a section.

The 'remate' is not a specific choreographic feature nor does it have a precise ending that can be identified (Baena-Chicón 2018). It is a communication code based on a freestyle choreographic footwork sequence. One way of identifying the 'remate' of any footwork section is by recognising that the last movements in its composition are

# 8 👄 I. BAENA-CHICÓN ET AL.



Figure 3. The traditional opening with a side step belonging to a 'Llamada' in the flamenco style or 'palo' known as 'Tangos'.

forceful and/or use several successive turns (Arranz 2012). At this moment, the vocalist and guitarist know that they have to end the current musical section.

# 'Subida', for speeding up the rhythm

This code indicates that the rhythm should be sped up (González 2011). The dancer is in optimum physical condition and wants to quicken the pace to make the footwork section more complicated or to make the dance more expressive. This code is used to get the musicians' attention by progressively increasing the tempo. By doing this, they understand that there are two possibilities: either the dancer will perform a complex footwork section at high speed and then end that part of the choreography or they are about to end the current section.

The dancer can perform this 'subida' in two different ways (Figure 5). One way is to use a simple footwork sequence that progressively increases its speed to reach that desired by the dancer. This is immediately followed by another footwork sequence, a 'llamada' or a 'remate'. The other option is similar but involves the dancer clapping to the rhythm of the flamenco style – 'palo' - speeding up the pace to that desired. This is immediately followed by another footwork sequence, a 'llamada' or a 'remate'. In both cases, the aim is to end this part of the choreography and begin another.



Figure 4. The moment a 'Remate' is being executed.

# 'desplante', a static pose for ending previous communication codes

The 'desplante' is a static pose (Pablo and Navarro 2007) which is used at the end of any communication codes that have been described. Its role is very important for the interaction between the performers: it marks the end of a dance section. During a live show, it is an essential code used by the dancer to tell the musicians that a section of the choreography has finished. The 'desplante' causes a pause in both the musical part of the show and the choreography. During this pause, the dancer rests briefly and uses this time to breathe. The audience tends to applaud as the 'desplante' is normally performed with lots of energy and passion. Here, we see a second function for this code: elicit applause from the audience (Vargas 2006). This also demonstrates effective communication between the dancer and audience (Hanna 2014). When the dancer uses this code, the choreography is paused for as long as the public applauds. The choreography is resumed by returning to the agreed structure and a section which is more or less physically demanding follows.

The posture used in the 'desplante' cannot be defined. The way it is executed will depend on how the dancer feels inspired.

The dancer chooses a pose according to how he or she feels inspired at that moment in the choreography. This characteristic is intrinsic to flamenco dance as opposed to





classical dance where every movement is classified and described (Grant 2012; Ryman 1995; Warren 1989). In order to be able to identify a 'desplante', it is essential to know about flamenco body technique as this static pose uses traits characteristic to flamenco, as can be observed in Figure 6. It carries great emotional weight as it transmits strength that causes an artistic silence in the performance. This static pose is never performed alone, but when it is performed, it is always found at the end one of the other communication codes, as a climax.



Figure 6. Some illustrated examples of 'Desplantes'.

# **Materials and methods**

Thirty professional flamenco dance performances have been analysed. They were performed by 20 female dancers and 10 male dancers. The audiovisual material was obtained through YouTube. This methodology has already been used effectively in other studies (Lantz-Andersson et al. 2017; Pilieci et al. 2018) as its audiovisual material is freely accessed and publicly available for all to use. Furthermore, using these recordings facilitates this type of study as it allows the researcher to pause and repeat the clip as many times as required to accurately identify the object of the study (Twitchett et al. 2009; Wyon et al. 2011).

The inclusion criteria used to select the dances for this study were the following:

• Performances that have been visually recorded and are available on the internet.

- Choreographies that are designed for the stage and television.
- Choreographies that can be seen in full view.
- Dances that are accompanied by at least one guitarist and one vocalist.

Performances in which the dancer wore an outfit that differed to the others have been excluded. This is because certain items of clothing typically used in these dances, for example a long-tailed skirt, can influence the choreography performed.

Statistical analysis was carried out using the statistical package IBM SPSS Statistics 25. During the flamenco performances, absolute frequency, the mean values and the standard deviation were calculated and used in the descriptive analysis of the following communication codes: 'llamada', 'remate', 'subida' and 'desplante'.

The Student's t-test and the Mann-Whitney U test were used to compare the independent samples. For the inferential analysis, there was a confidence level of 95% and a p-value of 5%.

# Results

Of the 30 flamenco dances analysed, 66.7% were performed by women and 33.3% by men. In this study, we have recorded the number of times each communication code appears in each choreography. Descriptive and comparative statistics is showed in Table 1.

Taking the results into account, we can confirm that the communication codes presented in this article were used in all the performances analysed. In 40% of the choreographies analysed, all four communication codes: 'desplante', 'llamada', 'remate'

Table 1. Descriptive and comparative statistics of the number of			
times each code of communication is used in the flamenco			
performances analysed			

	Female ( <i>n</i> = 20)	Male ( <i>n</i> = 10)	р
'Llamadas'	1.20 ± 1.74	1.30 ± 1.42	0.681 <sup>2</sup>
'Remates'	$4.95 \pm 2.69$	$4.00 \pm 1.94$	0.502 <sup>2</sup>
'Subidas'	$1.05 \pm 0.95$	$0.90 \pm 0.99$	0.650 <sup>2</sup>
'Desplantes'	$7.00\pm4.34$	$5.20\pm2.10$	0.228 <sup>1</sup>

Note: Results are shown as average  $\pm$  standard deviation.<sup>1</sup> t test for independent samples. <sup>2</sup> Mann-Whitney U test for independent samples. The conducted analyses adopted the following level of significance p < 0.05.

12 🕒 I. BAENA-CHICÓN ET AL.

and 'subida' are present. 50% used three of the signals and 10% only used two of them to communicate.

The 'remate' is the most commonly used communication code; more specifically, it has been used in 100% of the dances analysed. The 'desplante' is used in 96.6% of the choreographies studied. The 'llamadas' and 'subidas' each appear in 66.7% of the dances.

The average number of times each communication code is used in the flamenco performances without differentiating by gender are detailed below. The average use of 'desplantes' is  $6.40 \pm 3.80$  times per dance. The higher number of times the 'desplante' is used as a communication code in a single dance is 16. On the contrary, one dancer did not use it at all. The 'llamada' is used  $1.87 \pm 1.66$  per dance which is similar to that of the 'subida':  $1.00 \pm 0.91$ . The 'remate' is used more than those previously mentioned and is used  $4.50 \pm 2.26$  times per dance. As previously mentioned, this code appears in all the dances, with nine being the highest number of times it features in a single dance.

## Discussion

Despite the fact that the communication codes in flamenco dancing have not been documented in published literature in sufficient depth (Baena-Chicón 2018), it can be noted that they have an important presence in the choreographies. In all the professional dances analysed, at least one of these codes is present whilst half the dances include two of the codes. The 'remate' is the most used code, followed by the 'desplante', 'llamadas' and 'subidas'.

In the flamenco compositions analysed, no significant differences are found by gender regarding the use of communication codes. After analysing the results obtained whilst taking into account gender differentiation, we can say that in flamenco choreography, there are no specific gender characteristics found in how the communication codes are employed. This is to be expected as both genders want to be understood by their fellow performers during a show. When performing the choreography, dancers need to communicate with the musicians regardless of whether they are men or women. Neither gender needs to communicate more or less than the other. In other choreographic aspects, differences by gender have been noted, such as the length of dances, number of steps and length of recovery time (Vargas-Macías et al. 2011; Vargas 2006). Physiological and adaptative differences between the two sexes have also been detected after professional performances. Female dancers have an increased heart rate while male dancers have a flatter sole print after longer hours of tapping (Calvo et al. 1998; Vargas 2006).

As all flamenco dances that have been studied use these communication codes, it could be said that these codes are essential in flamenco choreography. Thus, any dancer who wants to perform flamenco live with musicians has no other option but to know and use this language. Their inclusion in the teaching methodology of flamenco dancing should be required if quality training is to be achieved. It should also be present in the training of both flamenco guitarists and vocalists.

The novice or practitioner who wants to learn to dance flamenco understands that they need to learn correct body technique. In other words, they understand the importance of properly executing the movements that make up the choreography (Barrios 2010; Espada 1997; Rivera 2009). From the results obtained, we believe that the aforementioned communication codes should be integrated into the teaching methodology for flamenco dance in addition to body and expressive technique. In doing so, practitioners will be able to communicate with the musicians at different times, ensuring that the choreography develops well on stage. However, this interaction will go unnoticed by the audience as this communication should be integrated into the choreography and staging. Thus, the audience will see body movements without needing to know that its use has an encrypted meaning. The only people who will perceive this communication between the performers on stage are those with insider information: other dancers, musicians and fans.

As in any other type of dance, for his or her training to be a success, a dancer must have been taught with an appropriate methodology. In flamenco, this helps the artist acquire knowledge, skills and abilities that go towards producing refined flamenco dance technique. Yet, Judith Lynne Hanna (2014) affirms that teachers can also help dance students explore different forms of dance communication. This study demonstrates that teaching communication codes should in fact be reinforced in professional teaching. If this is not put into practice, a dancer could be trained to a high level and dance very well technically but not know how to communicate with the musicians while performing on stage.

To the best of our knowledge, these communication codes have not been documented in published literature in sufficient depth. Interaction has been learnt through oral transmission between performers throughout its history. This should be supported by research which would be of interest to flamenco teachers and which responds to student needs. It can also obviously help vocalist and guitarist students as they accompany the dance.

Every art form has its own way of communicating with the audience. Flamenco incorporates its own language into the choreography to communicate with the musicians and this goes unperceived by the audience. The communication codes specific to Flamenco, 'desplante', 'llamada', 'remate' and 'subida', are present in all the dances analysed. They aid interaction between dancer, guitarist and vocalist. It would be extremely helpful to develop published literature on these communication codes that can serve as a reference for choreographers, dancers, teachers and students of this dance. It is especially important that these codes are taught not only in the official curriculums of professional training but also in private dance schools. The success of a live show depends on the communication between its performers.

#### **Disclosure statement**

No potential conflict of interest was reported by the authors.

# Funding

The work was supported by the BIOMECHANICS OF FLAMENCO DANCING [PI/A1/2015].

14 🕒 I. BAENA-CHICÓN ET AL.

## Notes on contributors

*Irene Baena-Chicón*, PhD. She is a member of the Telethusa Centre for Flamenco Research in Cadiz, Spain. She has been a professional dancer in different flamenco companies. She teaches Flamenco Dance at the Conservatorio Profesional de Danza Pepa Flores (Malaga, Spain). In recent years, she has been a member of the Performing Arts Research Group at the Universidad Católica San Antonio de Murcia, Spain.

*Sebastian Gómez-Lozano*, PhD is a Lecturer in Somatic Practices and Dance and graduated with a doctoral degree from the Physical Therapy Department, University of Murcia, Spain, in 2007. He is the Head Researcher of the Performing Arts Research Group at the Catholic University San Antonio of Murcia since 2011. Responsible for the line Analysis of the Choreographic and performing practices.

*Maria del Rosario Fernández-Falero*, PhD. She is an expert in network analysis and historical archives of flamenco. She is a professor of the Master's Degree in Information Management in social networks and digital products on the Internet. She is also a lecturer of the University Master in Social Sciences Research at the University of Extremadura (Badajoz, Spain). She currently teaches in the Department of Information and Communication at the University of Extremadura (Badajoz, Spain).

*Olaia Abadía-García de Vicuña*, PhD. She is a member of the Telethusa Centre for Flamenco Research (Cádiz, Spain). She is a specialist in Sports Performance and focuses her research on the analysis of flamenco dance as a high-intensity physical activity. As General Secretary of Education and Vocational Education Training of the Andalusian Government (Spain) she promoted research in Artistic Education, especially in Dance Studies.

*Alfonso Vargas-Macías*, PhD. He is the Director of the Telethusa Centre for Flamenco Research (Cádiz, Spain). He is a lecturer in three study programs in Spain: Flamenco and Health of the "Interuniversity Master in Flamenco Research and Analysis" of the University of Cadiz; Biomechanics of Flamenco Dancing of the "University Expert Program in Flamenco Dance" of the International University of Andalusia; and Biomechanics of Movement through Technologies of the "Master's Degree in Dance Studies" at the International University of La Rioja. He is currently a member of the Research Group Hermes-CTS601, Podiatry Department of the University of Seville (Seville, Spain).

#### ORCID

Irene Baena-Chicón () http://orcid.org/0000-0001-5053-6565 Sebastián Gómez-Lozano () http://orcid.org/0000-0003-4888-2930 Alfonso Vargas-Macías () http://orcid.org/0000-0002-1222-6133

# References

- Andalusian Government. 2007. Decreto 240/2007, de 4 de septiembre, por el que se establece la ordenación y currículo de las enseñanzas profesionales de danza en Andalucía [Decree 240/2007, of September 4, which establishes the organization and curriculum of professional dance education in Andalusia.]. Accessed July 30, 2022. https://www.juntadeandalucia.es/boja/2007/182/5
- Arranz, Á. 2012. *El baile flamenco. [Flamenco dance.]*. 2nd ed. Madrid, Spain: Librerías Deportivas Esteban Sanz S.L.
- Baena-Chicón, I. 2016. "Tratamiento Coreográfico En el Baile Flamenco." [The Choreography View of Flamenco Dancing]." *Revista del Centro de Investigación Flamenco Telethusa* 9 (11): 11–14. doi:10.23754/telethusa.091102.2016.

- Baena-Chicón, I. 2018. "El uso de la llamada y del remate en la coreografía de una letra por alegrías de Cádiz." [Use of the 'llamada' and the 'remate' in the choreography of a Cádiz 'alegrías' verse]." *Revista del Centro Investigación Flamenco Telethusa* 11 (13): 12–21. doi:10.23754/telethusa. 111304.2018.
- Barrios, M. J. 2010. La Escuela Bolera. Método Y análisis. [The Bolero Dance School. Method and Analysis.]. Málaga, Spain: Bryal.
- Calvo, J. B., A. Alonso, E. Pasadolos, and L. Gómez-Pellico. 1998. "Flamenco Dancing: Biomechanical Analysis and Injuries Prevention. Preliminary Work." In Continents in Movement. Proceedings of the International Conference: New Trends in Dance Teaching, edited by A. Macara, 279–285. Oeiras, Portugal: FMH Edições.
- Cuellar-Moreno, M. 2016a. "Flamenco Dance. Characteristics, Resources and Reflections on Its Evolution." *Cogent Arts & Humanities* 3 (1): 1–8. doi:10.1080/23311983.2016.1260825.
- Cuellar-Moreno, M. 2016b. "Methodology and Beliefs in Primary School Dance Education." Journal of Physical Education & Sport 16 (3): 743-751. doi:10.7752/jpes.2016.03120.
- Davillier, C. H. 1874. L'espagne [Spain]. Paris, France: Librairie Hachette.
- Dumas, A. 1854. De Paris à Cadix [From Paris to Cadiz]. Paris. France: Levy.
- Espada, R. 1997. La danza española: su aprendizaje y conservación [Spanish dance: itslearning and conservation.]. Madrid, Spain: Librerías Deportivas Esteban Sanz S.L.
- Estudio, F. 2022. Flamenco online. Formación completa de flamenco online [Flamenco online. Complete online Flamenco training.]. Accessed August 16, 2022. https://estudioflamenco.com/flamenco-online/
- Festival de Jerez. 2022. Bienvenidos al XXVI Festival de Jerez, vuestra casa [Welcome to the XXVI Festival de Jerez, your home.]. Accessed August 16, 2022. http://www.jerez.es/index.php?id=festival-jerez
- Ford, R. 1855. A Handbook for Travellers in Spain. 3th ed. London, UK: John Murray.
- Gamboa, J. M. 2005. Una historia del flamenco [A history of Flamenco.]. Madrid, Spain: Espasa-Calpe.
- González, M. 2011. "Estructura básica del baile flamenco." [Basic structure of Flamenco dancing]." *Revista del Centro de Investigación Flamenco Telethusa*." 4 (4): 25–31. doi:10.23754/ telethusa.040405.2011.
- Goulet, I. 2007. "Learning to become dancing musicians: flamenco dancers going global." PhD diss., Concordia University: Montreal, Canada.
- Grant, G. 2012. *Technical Manual and Dictionary of Classical Ballet*. 3th ed. New York, NY: Dover Publications.
- Hanna, J. 2014. Dancing to Learn: The Brain's Cognition, Emotion, and Movement. Lanham, MD: Rowman & Littlefield.
- Koutedakis, Y., and A. Jamurtas. 2004. "The Dancer as a Performing Athlete." *Sports Medicine* 34 (10): 651–661. doi:10.2165/00007256-200434100-00003.
- La Bienal de Sevilla.2022. XXII Bienal de Flamenco. Sevilla [XXIII Flamenco Biennial. Seville.]. Accessed August 16, 2022. http://www.labienal.com/
- Lantz-Andersson, A., L. Peterson, T. Hillman, M. Lundin, and A. B. Rensfeldt. 2017. "Sharing Repertoires in a Teacher Professional Facebook Group." *Learning, Culture & Social Interaction* 100 (15): 44–55. doi:10.1016/j.lcsi.2017.07.001.
- Losa, A. 2022. Clases de flamenco online Alfonso Losa [Flamenco classes online Alfonso Losa.]. Accessed August 16, 2022. http://clasesdeflamencoonlinealfonsolosa.com/spa
- Machin-Autenrieth, M. 2015. "Flamenco ¿algonuestro? (Something of Ours?): Music, Regionalism and Political Geography in Andalusia." *Spain* "Ethnomusicology Forum 24 (1): 4–27. doi:10. 1080/17411912.2014.966852.
- Martínez, J. 2010. El Cante Flamenco [The Flamenco Singing.]. 2nd ed. Córdoba, Spain: Almuzara.
- Moon, C. 2015. "The Alert Collector: Dance and Flamenco, a Guide to Sources." *Reference* &userservicesquarterly 54 (3): 19-22. doi:10.5860/rusq.54n3.19.
- Mora, J., F. Gómez, E. Gómez, and J. M. Díaz-Báñez. 2016. "Melodic Contour and Mid-Level Global Features Applied to the Analysis of Flamenco Cantes." *Journal of New Music Research* 45 (2): 145–159. doi:10.1080/09298215.2016.1174717.

16 🕒 I. BAENA-CHICÓN ET AL.

- Navarro, J. L. 2002. De Telethusa a la Macarrona. Bailes andaluces y flamencos. [From Telethusa to Macarrona. Andalusian and Flamenco dances.]. Seville, Spain: Portada.
- Navarro, J. L., and E. Pablo. 2005. El baile flamenco. Una aproximación histórica. [Flamenco dancing. A historical approach.]. Córdoba, Spain: Almuzara.
- Pablo, E., and J. L. Navarro. 2007. Figuras, pasos y mudanzas : Claves para conocer el baile flamenco. [Figures, steps and 'mudanzas': Keys to know flamenco dance.]. Córdoba, Spain: Almuzara.
- Paparizos, A. I., D. E. Tripp, M. J. L. Sullivan, and M. L. Rubenstein. 2004. "Catastrophizing and Pain Perception in Recreational Ballet Dancers." *Journal of Sport Behavior* 28 (1): 35–50.
- Pedersen, M. E., and V. Wilmerding. 1998. "Injury Profiles of Student and Professional Flamenco Dancers." *Journal of Dance Medicine & Science* 2 (3): 108–114.
- Pedersen, M. E., M. V. Wilmerding, B. T. Kuhn, and E. Enciñias-Sandoval. 2001. "Energy Requirements of the American Professional Flamenco dancer." *Medical Problems of Performing Artists.*" *Medical Problems of Performing Artists* 16 (2): 47–52. doi:10.21091/mppa. 2001.2008.
- Pilieci, S. N., S. Y. Salim, D. S. Heffernan, K. M. F. Itani, and R. G. Khadaroo. 2018. "A Randomized Controlled Trial of Video Education versus Skill Demonstration: Which is More Effective in Teaching Sterile Surgical Technique?" *Surgical Infections* 19 (3): 303–312. doi:10.1089/sur.2017. 231.
- Piulestán, R. 2020. "El cajón en el flamenco: más allá de marcar el ritmo." [The box drum in flamenco: beyond setting the rhythm]." *Revista del Centro de Investigación Flamenco Telethusa* 13 (15): 26–33. doi:10.23754/telethusa.131508.2020.
- Pohren, D. 2005. The Art of Flamenco. 6th ed. Wesport, CT: Bold Strummer Limited.
- Quiñones, F. 1992. What is Flamenco?. Bilbao, Spain: Cinterco.
- Rivera, B. 2009. La enseñanza del folklore en los conservatorios profesionales de danza. [Teaching of folklore in professional dance conservatories.]. Bilbao, Spain: Asociación Cultural Danza Getxo.
- Ropero, M. 1995. El término Flamenco. Historia del Flamenco. [Flamencoterm. History of Flamenco.]. Seville, Spain: Tartesos.
- Ryman, R. 1995. Dictionary of Classical Ballet Terminology. London, UK: Royal Academy of Dance.
- Spanish Government. 2007. Real Decreto 85/2007, de 26 de enero, por el que se fijan los aspectos básicos del currículo de las enseñanzas profesionales de danza reguladas por la Ley Orgánica 2/2006, de 3 de mayo, de Educación[Royal Decree 85/2007, of January 26, which establishes the basic aspects of the professional dance education curriculum regulated by Organic Law 2/2006, of May 3, on Education.]. Accessed August 16, 2022. https://www.boe.es/buscar/doc.php?id=BOE-A-2007-2956
- Twitchett, E., M. Angioi, Y. Koutedakis, and M. Wyon. 2009. "Video Analysis of Classical Ballet Performance." *Journal of Dance Medicine & Science* 13 (4): 124–128.
- UNESCO. 2010. Flamenco. Inscribed in 2010 (5.COM) on the Representative List of the Intangible Cultural Heritage of Humanity. Accessed August 16, 2022. https://ich.unesco.org/en/RL/fla menco-00363?RL=00363
- Vargas, A. 2006. "El baile flamenco: estudio descriptivo, biomecánico y condición física." [Flamenco dance: descriptive, biomechanical and physical condition study]." PhD diss., University of Cádiz: Cádiz, Spain.
- Vargas, A., S. Gòmez, A. Macara, J. L. González, J. Mora, and P. Ruiz. 2008. "El esfuerzo físico en el baile flamenco de principios del siglo XX y el actual." [Physical demands in beginning of the 20th century and present flamenco dance]." *Revista del Centro de Investigación Flamenco Telethusa* 1 (1): 7–9. doi:10.23754/telethusa.010102.2010.
- Vargas, A., J. L. González, and J. Mora. 2010. "Biomecánica del baile flamenco. Análisis de los tiempos de pausa y actividad." [Biomechanics of flamenco dance. Analysis of the rest and activity periods]." *Revista del Centro de Investigación Flamenco Telethusa* 3 (3): 26–31. doi:10. 23754/telethusa.030301.2010.
- Vargas-Macías, A., J. L. González, S. Gòmez-Lozano, and J. Mora. 2011. "Análisis de los tiempos de pausa y actividad en el baile flamenco masculino." [Analysis of the rest and activity periods in

male flamenco dance]." *Revista Del Centro de Investigación Flamenco Telethusa* 4 (4): 12–18. doi:10.23754/telethusa.040402.2011.

- Warren, G. 1989. Classical Ballet technique. Tampa. CA: University of South Florida Press.
- Washabaugh, W. 1995. "The Politics of Passion: Flamenco, Power, and the Body." Journal of Musicological Research 15 (1): 85–112. doi:10.1080/01411899508574714.
- Wilmerding, V., B. Gurney, and V. Torres. 2003. "The Effect of Positive Heel Inclination on Posture in Young Children in Flamenco Dance." *Journal of Dance Medicine & Science* 7 (3): 85–90.
- Wyon, M. A., E. Twitchett, M. Angioi, F. Clarke, G. Metsios, and Y. Koutedakis. 2011. "Time Motion and Video Analysis of Classical Ballet and Contemporary Dance Performance." *International Journal of Sports Medicine* 32 (11): 851–855. doi:10.1055/s-0031-1279718.