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Implicit Theories on Teaching, Learning, and Evaluating Flamenco Dance in the Classroom: Demographic Comparison of Spain and Japan

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Flamenco dance is present not just in many regions of Spain but also throughout the world, including places as far as Japan. These diverse teaching contexts have led to disparate studies on flamenco teaching and learning processes. However, most of these studies differ from general theories of education; for example, there is no record of studies of flamenco applying implicit learning theories. Much like music and physical education, flamenco dance entails a type of procedural learning that can be based on different theories depending on whether the focus is on learning, teaching or educational evaluation. This study aims to disclose the presence of implicit theories (direct, interpretive and constructive) in these processes, and determine Spanish and Japanese dancers' educational preferences in the classroom in connection with these theories, while exploring geographical and demographic characteristics. The results show that the situations extracted from the theories are present in the classroom, and that there is a clear connection between the country where dancers train professionally, and their age and gender. There are statistically significant differences that reveal the importance of the country with respect to the latter two characteristics. Overall, participants preferred constructivist situations. Given these results, more research should be carried out in this field.

Keywords: teaching and learning processes, implicit learning theories, flamenco, teaching contexts, evaluation

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INTRODUCTION

Flamenco dance originated from traditional Spanish folk dances, also known as boleros, in the late 18th and early 19th centuries (Bergillos, 2019). Over time, it has spread to many geographical regions. Flamenco has been subject to many sudden cultural influences beyond the limits of its social roots (Steingress, 2002). Formal, non-formal, and informal teaching has been used to transmit flamenco dance training processes (Jiménez Romero, 2015; De las Heras-Monastero, 2018). In general terms, lformal education has traditionally been connected with teaching that is geared at obtaining an official degree. On the other hand, non-formal education is geared at simply obtaining training or specialisation, not at obtaining a formal degree. Lastly, informal education refers to learning acquired from experiences in different social contexts and to self-taught learning, amongst others. (Herrera, et al., 2010).

Throughout history, informal teaching contexts for flamenco included public settings where learning also took place, such as live-music cafes, *tablaos*, theatres, bullrings, city and town streets, flamenco parties and clubs, as well as private spaces such as courtyards of buildings and private gatherings. Popular events and celebrations such as weddings, baptisms and communions also served as informal learning contexts, as did festive social environments such as pilgrimages, Holy Week and carnival, and work environments, as exemplified by work songs in mines and forges (Cruces, 2014).

Regarding non-formal education, there is evidence of the first dance academies in the late 19th century (Perozo, 2009; De las Heras-Monastero, 2018), with more developing across the peninsula over time. Andalusia has been referenced as the origin of flamenco dance (Bergillos, 2019), thus revealing the importance of flamenco in that region (Machin-Autenrieth, 2016) and sometimes sparking a controversial relationship between flamenco and Southern Spanish identity (Machin-Autenrieth, 2013). However, documentation from the late 19th century points to strong ties with flamenco in the Valencian Community (Paulo, 2019). There are also allusions to the Catalan population welcoming traditional Spanish dances such as fandangos, boleros, etc. (Martín, 1995). On the other hand, Madrid is cited as the preferred destination for students from various parts of Spain for learning flamenco dance (Jiménez Romero, 2015). Flamenco dance also has a strong foothold beyond the borders of Spain, such as in Japan. While it is not completely clear why the Japanese have taken such an interest in flamenco (Antúnez, 2014), the fact is that there are more flamenco dance schools in Japan than there are in Spain (Ugarte 2012; Jensana, 2013).

The formal teaching of flamenco dance in Spain is a more recent phenomenon (De las Heras-Monastero, 2010). It was not until the 1969-70 academic year that flamenco dance was included in formal dance teaching. The specialities introduced were classical dance, Spanish dance and contemporary dance, with three levels: elementary, intermediate and advanced (Ley Orgánica 1/1990 of October 3 [Organic Law]). The subject of flamenco dance was included in Spanish dance studies at the intermediate level (Real Decreto 1254/1997 [Royal Decree]). These dance specialities, including flamenco, were later structured into six courses under the vocational training programme (Real Decreto 85/2007 [Royal Decree]). Vocational dance training was then established

(Ley Orgánica 2/2006 [Organic Law] and Ley Orgánica 3/2020 [Organic Law]), consisting of a single cycle of varying duration. Flamenco dance was included as a subject in several specialities (Real Decreto 632/2010 [Royal Decree]).

Traditionally, flamenco dance was taught and learned through oral transmission (Grimaldos, 2010), where each teacher would teach intuitively, in most cases just as he or she had learned to dance (Syrmpas & Digelidis, 2014). These different teaching contexts have led to disparate studies on flamenco teaching and learning processes. Some studies shed light on the teaching and learning processes of professional dancers (De las Heras-Fernández & García-Gil, 2019; De las Heras-Fernández et al., 2020). Others address the introduction of flamenco dance to the classroom (De las Heras-Fernández, 2017a) by applying music-learning theories and teaching resources for learning flamenco dance (De las Heras-Fernández, 2016, 2017b, 2017c, 2021). There is even research dealing with theory from related areas such as physical education, specifically the Mosston and Asworth teaching styles (1993) as applied to flamenco dance (De las Heras-Fernández et al., 2019; De las Heras-Fernández & Espada, 2020). However, most of these studies do not interfuse with general education theories; for example, there is no record of studies applying implicit learning theories (ITs) (Pozo et. al., 2006) to flamenco dance. Pozo et al. (2006) propose three ITs for flamenco teaching, learning and assessment processes: direct theory, interpretive theory and constructive theory. The direct theory, which is related to behaviourist theories, focuses on the outcomes and the extent to which they are a true copy of the perceived model. The interpretive theory, related to information processing models, conceives learning processes as a determinant of the outcomes. The constructivist theory upholds that different persons can give multiple forms of meaning to the same information, so that acquisition of knowledge necessarily implies a transformation of the content that is leart, in addition to the transformation of the student (Pozo et al., 2006). These ITs have been studied in various teaching contexts, such as primary education (Cossío & Hernández, 2016), with undergraduate students and teachers (Gómez & Guerra, 2012), and in situations that comprise childhood, primary, secondary and university education levels (Jiménez Llanos, 2005). These ITs are more related to informal, unconscious or self-taught teaching contexts (Pozo et. al., 2006), and have more to do with knowing how to do something than with knowing how to explain it (Reber, 1993). Therefore, they resemble more forms of procedural learning that are implicit when learning art (Navarrete et. al., 2020). There are studies addressing ITs in music learning and instruction, including music theory students (Roa, 2014), piano students at professional conservatories (Bautista et al., 2014) and piano teachers (Bautista et al., 2010), as well as various music specialities such as classical, jazz and flamenco (Casas, 2013; Casas-Mas et al., 2015). However, as previously mentioned, no studies on these theories in the educational field of dance and, more specifically, within the speciality of flamenco dance, have been found. Therefore, this study aims to identify implicit theories in flamenco dance learning, teaching and evaluation processes and identify any differences in the preferences of dancers for one IT over another in the classroom in connection with their country and region, as well as other demographic aspects such as gender and age.

METHOD

An ex post facto quantitative study was conducted using questionnaires with non-probability convenience sampling (León & Montero, 2015).

Participants

Participants were selected through a non-probability sample, specifically due to accessibility. The sample consisted of 172 participants who taught flamenco lessons in different parts of Spain and Japan: 138 worked in Spain (89.85% women, mean age 40.84 years, SD = 12.82; 10.15% men, mean age 41.07, SD = 10.27), and had a mean age of 38.60 years (SD=12.55); and 34 worked in Japan (100% women), and had a mean age of 50.00 years (SD = 7.88). Questions were posed regarding the number of years they had devoted to studying flamenco, with a mean overall outcome of 14.28 (SD = 11.55), and 21.19 years (SD = 10.51) for participants from Spain and 10.85 years (SD = 6.22) for those from Japan.

Instrument

A validated, multiple-choice questionnaire was adapted (details about the validation and justification of its structure are available in Bautista et al., 2014). It comprised 16 nominal items plus some initial descriptive questions about the sample, such as age and gender. The questions were designed as vignettes or problem situations related to teaching and learning processes and participants were asked to select a solution for each case. Three possible responses were offered based on IT assumptions (direct, interpretative or constructive, as mentioned above).

The dimensions or categories proposed were:

- Learning (L): four items
- Teaching (T): seven 7 items
- Assessment/Evaluation (AE): five items

This categorisation resulted in nine response categories (3 IT styles x 3 dimensions) that formed part of the analyses performed, as explained later.

Procedure

The data was collected through an online questionnaire using Google Forms. The participants were given detailed information about their participation in the research and its dissemination. Furthermore, all the participants voluntarily agreed to collaborate by providing their informed consent. The data provided by the participants was kept anonymous and confidential at all times.

Statistical analysis

Descriptive analyses of the results were performed, reporting the response frequency and percentage of each item and the total of the three dimensions on the three scales. In addition, contingency tables were constructed to observe the results of the flamenco

teaching and learning processes across men and women and according to the participants' age and place of work. Analyses were performed to assess the degree of association between variables using Pearson's chi-squared test (statistical significance was $p < .05$) and the effect size of the association was estimated using Cramer's V (with a range of 0-1, where values closer to 1 indicate a stronger association; according to Cohen (1988), V values greater than .220 can be considered large, and above .130 can be considered average). The analyses were conducted with several dependent variables (DVs): a) age group, divided by quartile (the estimated quartiles were less than 30.25 years for Q1, 31-44 for Q2, 44-51 for Q3 and over 51 for Q4); b) country (Spain vs. Japan); c) geographical region, which includes Japan and four different regions in Spain: Andalusia, Madrid (includes Madrid, with 79.7% of the participants from that area and the vicinity), Valencia and the surrounding area, and Barcelona (consisting of Barcelona (75%) and the vicinity); and d) gender.

A simple correspondence factorial analysis (SCFA) was also performed. This multivariate analysis technique associates two categorical variables (response type and geographical region) to show the relations of proximity and opposition on a factorial plane (Lebart et al., 1984). This analysis was also conducted for the age group quartiles and response types. The analysis shows how responses are grouped for each IT style based on the classification variable used. As per the usual criteria, the interpretation of the factorial plane is based on codes whose contribution to one or both axes is greater than the mean value (that is, 1/number of dimensions).

Poisson regression analyses were also performed using as the DV the frequency of each response in each of the nine combinations of response types, and the geographical area as the IV, controlling statistically for participants' age. These analyses were repeated with the dichotomous variable "country" (Spain vs. Japan) as the IV.

Data were analysed in Stata 13.1 for Windows with a 95% confidence level.

FINDINGS

The descriptive results of the responses to each item presented with each of its scales are shown below. As can be seen in Table 1, the general results indicate that participants preferred the constructive (in Learning and Assessment/Evaluation) and interpretive (in Teaching) styles and that the direct style was, in general, not preferred.

Table 1
Descriptive results for each response frequency and percentage for each dimension and teaching & learning style

Dimensions	Situations	Direct	Interpretive	Constructive
Learning	1	30 (17.4%)	90 (52.3%)	52 (30.2%)
	2	5 (2.9%)	14 (8.1%)	153 (89.0%)
	3	36 (20.9%)	50 (29.1%)	86 (50.0%)
	4	38 (22.1%)	70 (40.7%)	64 (37.2%)
	Total 688	109 (15.84%)	224 (32.56%)	355 (51.60%)
Teaching	1	3 (1.7%)	144 (83.7%)	25 (14.5%)
	2	27 (15.7%)	74 (43.0%)	71 (41.3%)
	3	36 (20.9%)	42(24.4%)	93 (54.1%)
	4	29 (16.9%)	69 (40.1%)	73 (42.4%)
	5	31 (18.0%)	49 (28.5%)	90 (52.3%)
	6	8 (4.7%)	107 (62.2%)	57 (33.1%)
	7	47 (27.3%)	94 (54.7%)	31 (18.0%)
	Total 1200	181(15.08%)	579 (48.25%)	440 (36.67%)
Assessment/Evaluation	1	12 (7.0%)	68 (39.5%)	92 (53.5%)
	2	9 (5.2%)	77 (44.8%)	86 (50.0%)
	3	12 (3.6%)	70 (40.7%)	90 (52.3%)
	4	30 (17.4%)	56 (32.6%)	86 (50.0%)
	5	11 (6.4%)	92 (53.5%)	69 (40.1%)
	Total 860	74 (8.60%)	363 (42.21%)	423 (49.19%)

Each column contains the N values of the sample and the response frequency for each item and style within each dimension. The specific situations can be seen in the original article on the scale validation (Bautista et al., 2014).

As explained in more detail, the results show ($\chi2(6) = 150.5$; $p < .001$, $V = .331$) that for *Learning*, most of the responses match best with constructive theory, followed by interpretive theory, although not in the same proportion for each item—in situations 1 and 4 more responses fit constructive theory. As for the second dimension, *Teaching*, the results show a statistically significant association between variables ($\chi2(12) = 214.5$; $p < .001$, $V = .299$) and that interpretive theory matches the situations most frequently, although constructive theory is close behind. It is clear that in this dimension participants matched situations 1, 6 and 7 with interpretive theory, while they matched situations 3 and 5 with constructive theory. The results for situations 2 and 4 are similar for both theories. Regarding the last dimension of *Assessment/Evaluation*, the results show a statistically significant association ($\chi2(8) = 33.5$; $p < .001$, $V = .140$). The response frequency is highest for constructive theory, followed by interpretive theory. Clear differences can be observed in cases 1 and 4, while the results are closer in 2 and 3. Responses to question AE5 focus more on interpretive theory, although the values for constructive theory are also close.

The results were grouped and analysed according to participants' place of work (response percentages are presented in Table 2) and the total value the theories obtained in each dimension. To do this, two country groups were first established (Japan and

Spain). Statistically significant associations were found in all dimensions: for *Learning* ($\chi 2$ (2) = 77.92; $p < .001$, $V = .337$) there was a preference in Spain for *constructive* theory while participants from Japan opted for *direct* theory; for *Teaching* ($\chi 2$ (2) = 94.90; $p < .001$, $V = .281$), participants from Japan chose *interpretive* theory most often, followed by *direct* theory, while participants in Spain chose *interpretive* theory most often, very closely followed by *constructive* theory; and for *Assessment/Evaluation* ($\chi 2$ (2) = 82.40; $p < .001$, $V = .310$), participants from Japan chose *interpretive* theory while those from Spain selected *constructive* theory.

In addition, more detailed groupings were established for certain regions of Spain: these groups were named after the main cities with the largest number of participants but also included the surrounding areas. The results show statistically significant associations between variables for the three categories: *Learning* ($\chi 2$ (8) = 82.47; $p < .001$, $V = .245$), *Teaching* ($\chi 2$ (8) = 127.14; $p < .001$, $V = .230$) and *Assessment/Evaluation knowledge* ($\chi 2$ (8) = 84.33; $p < .001$, $V = .223$). All effect sizes (V) can be considered large. In the case of *Learning*, the response percentages show that participants from Japan were more inclined towards the *direct* style while all regions of Spain leaned towards the *constructive* style (although there was little difference in the response percentages for interpretive and constructive styles among participants from Barcelona). On the other hand, for *Teaching*, *interpretive* theory had the highest percentage in all regions except in Valencia, where the highest percentage corresponded to *constructive* theory. Likewise, the Japanese sample presented higher percentages for *direct* theory and lower percentages for *constructive* theory in *Teaching*. Lastly, regarding *Evaluation*, most regions opted for *constructive* theory except for Japan, which chose *interpretive* theory, although without much difference between the two styles. Moreover, the percentages for *direct* theory in the Japanese sample were higher than those of any Spanish region.

Table 2
Descriptions based on place of work and residence

		Japan	Andalusia	Madrid	Valencia	Barcelona	Spain
L	D (r1)	55 (40.44)	15 (9.38)	26 (10.16)	3 (4.17)	10 (15.63)	54 (9.78)
	I (r2)	36 (26.47)	51 (31.88)	89 (34.77)	25 (34.72)	23 (35.94)	188 (34.06)
	C (r3)	45 (24.33)	94 (58.75)	141 (55.08)	44 (61.11)	31 (48.44)	310 (56.16)
	Total	136	160	256	72	64	552
T	D (r4)	81 (34.62)	34 (12.14)	38 (8.48)	9 (7.14)	19 (16.96)	100 (10.35)
	I (r5)	105 (44.87)	156 (55.71)	221 (49.33)	43 (34.13)	54 (48.21)	474 (49.07)
	C (r6)	48 (20.51)	90 (32.14)	189 (42.19)	74 (58.73)	39 (34.82)	392 (40.58)
	Total	234	280	448	126	112	966
A	D (r7)	44 (25.88)	11 (5.50)	15 (4.69)	4 (4.44)	0 (0.00)	30 (4.35)
E	I (r8)	66 (38.82)	87 (43.50)	139 (43.44)	34 (37.78)	37 (46.25)	297 (43.04)
	C (r9)	60 (35.29)	102 (51.00)	155 (48.44)	52 (57.78)	43 (53.75)	363 (52.61)
	Total	170	200	320	90	80	690

Response codes for interpreting the table = r1-r9. L: Learning; T: Teaching; AE: Assessment/Evaluation. D: Direct; I: Interpretative; C: Constructive.

SCFA was conducted based on the frequencies from the previous table (Figure 1), taking as categorical variables the five geographic areas (c1: Japan, c2: Andalusia, c3: Madrid, c4: Valencia and c5: Barcelona) and the responses for the three ITs from the three different dimensions (*learning*, *teaching*, and *evaluation*) with their corresponding codes, as noted in Table 2 (second column). The two resulting axes explained 88.9% and 7.8% of the Total Inertia (or variance) of the value 0.1076 of the contingency table, with eigenvalues for these axes of 0.0957 and 0.084. The following codes are used to interpret the factorial plane: a) according to geographical region, the codes correspond to Japan, Andalusia and Valencia (given that the value must be greater than 0.20, as previously mentioned); b) according to response type (greater than 0.11), the codes r1, r4, r5, r6 and r7 are used. The figure shows that area 1 (Japan) is associated with *direct* theory in all three dimensions, Andalusia is consistently associated with *interpretive* theory (r5) for *Teaching*, and Valencia is associated with *constructive* theory for *Teaching*.

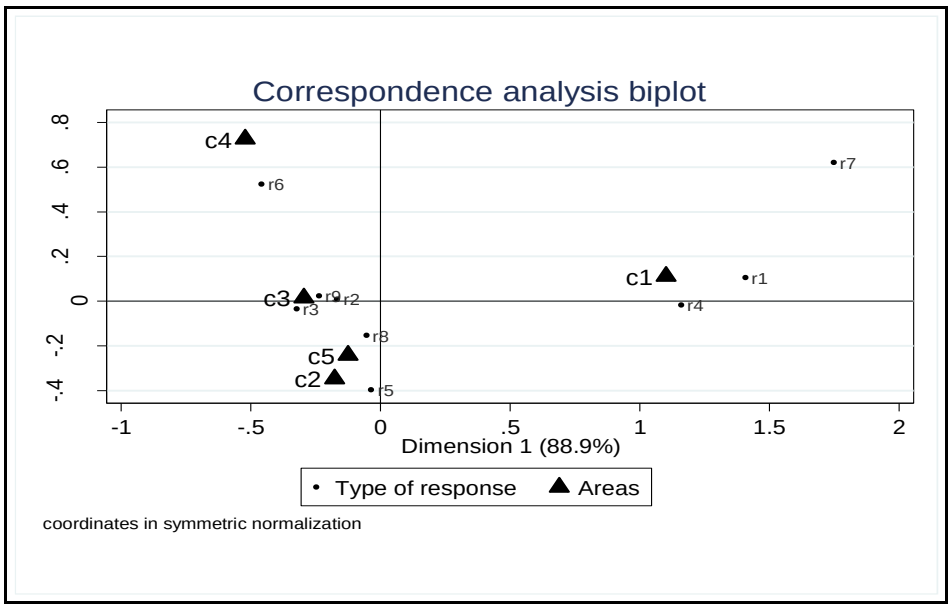

Figure 1
Graph of the results of the SCFA for the combination of place of work and response type

On the other hand, statistically significant associations were found in Spain for gender in *Learning* ($\chi 2$ (2) = 11.922; p = .003, V = .147) and *Teaching* ($\chi 2$ (2) = 7.064; p = .029, V = .086), and nearly statistically significant associations were found for *Assessment/Evaluation* ($\chi 2$ (2) = 5.948; p = .051, V = .093). In addition, it was verified that the samples of men and women were distributed at different ages to ensure that this variable did not affect the results. Most men chose *constructive* theory in *Learning* (76.79%) and *Evaluation* (65.71%). While women made the same choices, the

percentage was not as robust for *Learning* (53.83%) and the values were close to those for *interpretive* theory in *Evaluation* (44.19% *interpretive* and 51.13% *constructive*). As for *Teaching*, men selected *interpretive* (48.98%) and *constructive* (47.96%) responses almost at the same rate and hardly opted for *direct* theory (3.06%), while women selected *interpretive* theory most often (49.08%) and showed somewhat more distribution between the other two options (*direct* = 11.18%, *constructive* = 39.75%).

Regarding the results of the age quartiles, statistically significant associations were found in *Learning* and *Assessment/Evaluation*. In the case of *Learning* ($\chi 2$ (6) = 19.00; p = .004, V = .118), the results were very close for the first two quartiles, and most responses corresponded to *constructive* theory. However, the older the participants, the more distributed the results, and *direct* theory gained more importance, even though the *constructive* style still had the greatest number of responses. In *Assessment/Evaluation* ($\chi 2$ (6) = 29.59; p < .001, V = .131), the last two quartiles tilted the score percentage towards *direct* theory, with almost double that of the first quartiles. The second quartile values were very close for *interpretive* and *constructive* theories, while in the fourth they opted for the *interpretive* style and in the first for the *constructive*. Regarding *Teaching* ($\chi 2$ (6) = 8.72; p .190, V = .060), no statistically significant associations were found. As seen in Table 3, the highest percentages were for the *interpretive* style, with greater differences among younger participants' scores, and fewer differences among the oldest group's scores.

Table 3
Age quartiles for each style in the dimensions *Learning*, *Teaching* and *Assessment/Evaluation*

		1Q	2Q	3Q	4Q
ML	D	19 (11.05)	18 (10.00)	39 (19.90)	33 (23.57)
	I	62 (36.05)	66 (36.67)	52 (26.53)	44 (31.43)
	C	91 (52.90)	96 (53.33)	105 (53.57)	63 (45.00)
	T 688	172	180	196	140
MT	D	41 (13.62)	53 (16.83)	48 (13.99)	39 (16.18)
	I	164 (54.49)	142 (45.08)	156 (45.48)	117 (48.55)
	C	96 (31.89)	120 (38.10)	139 (40.52)	85 (35.27)
	T 1200	301	315	343	241
AE	D	13 (6.05)	10 (4.44)	30 (12.24)	21 (12.00)
	I	84 (39.07)	109 (48.44)	82 (33.47)	88 (50.29)
	C	118 (54.88)	106 (47.11)	133 (54.29)	66 (37.71)
	T 860	215	225	245	175

When it comes to implicit learning style preferences, this study points to differences across genders, with men selecting constructive theory more often. This is not consistent with other studies in related fields, such as physical education, where the *academic style* (Delgado, 1996), akin to *direct theory*, was predominant in men (González-Peiteado & Pino-Juste, 2016). In terms of age, this study shows that younger flamenco dance students prefer the *constructive* style, which does align with other studies in which teachers with less teaching experience tended to use constructivist approaches (Gómez & Guerra, 2012). However, a preference for *direct theory* has been found in studies

conducted in related fields, such as music, in both younger students (Bautista et al., 2014) and more experienced piano teachers (Bautista et al., 2010).

Various Poisson regression analyses were also conducted to estimate the association between response frequency (DV) in each of the nine categories resulting from the combination of styles and work/residence regions of the sample. The regions were classified using four dummy variables (0-1), excluding the Andalusian sample, which acted as the reference category (this means that positive values of the regression coefficient β indicate a positive differential effect compared to the Andalusian sample, statistically controlling for the value of the other regions and vice versa with respect to the negative β coefficients). Table 4 presents the descriptive data of the response type frequencies and the data of the summarised regression equations, statistically controlling for the age of the sample. Only the data from the Japanese sample are provided in the column of β coefficients, statistical significance *p* and 95% confidence interval, given the results of the previous analyses that clearly suggested a distinct profile for this sample as compared to the Spanish regions.

Table 4
Descriptive results for the response frequency for each dimension and teaching & learning style, and results of the Poisson regression for the Japanese sample, controlling statistically for regions of Spain and age

		Mean	SD	*B*	*p*	95% CI
L	D	1.05	1.31	1.53	<.001	1.02, 2.04
	I	3.37	1.51	-0.22	.126	-0.51, 0.06
	C	2.56	1.82	-0.62	.002	-1.00, -0.24
T	D	0.63	0.87	1.40	<.001	0.73, 2.08
	I	1.30	1.00	0.03	.898	-0.46, 0.52
	C	2.06	1.15	-0.69	.001	-1.08, -0.29
AE	D	0.43	0.74	1.65	<.001	0.84, 2.46
	I	2.11	1.28	-0.21	.268	-0.57, 0.16
	C	2.46	1.32	-0.30	.103	-0.66, 0.06

Statistically significant results are highlighted in bold.
SD Standard Deviation, *β*: regression coefficient for the Japanese sample compared to Andalusia, controlling statistically for the other regions of Spain and age. CI: Confidence Interval.

Table 4 shows that the group from Japan has a statistically significant positive relationship with response frequency for the *direct* style in all dimensions and an inverse effect for the *constructive* style in *Learning* and *Teaching*. In fact, three additional Poisson regression analyses were performed using the total frequency of the style as the DV regardless of dimension. The effects were positive and statistically significant for the Japanese sample for *direct* style *(β* = 1.51; $p < .001$; 95% CI: 1.15, 1.87) and negative for *constructive* style *(β* = -0.53; $p < .001$; 95% CI: -0.75, -0.31).

Figure 2 shows the linear prediction when comparing both countries for each of the ITs, with 95% confidence bands for each style with respect to the sample country. It is clear that higher scores for the *direct* style are associated with the Japanese sample (graph on the left), while there is a positive association with the *interpretive* and *constructive* styles in the Spanish sample.

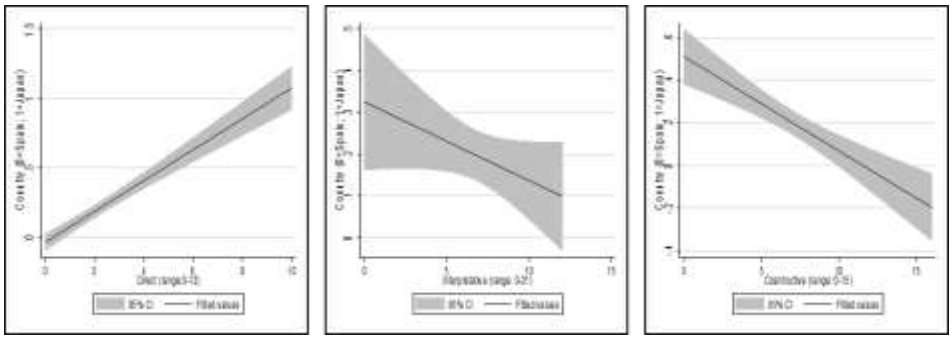

Figure 2
Linear prediction for total frequency of responses in each theory according to country of the sample

DISCUSSION AND CONCLUSION

In the field of flamenco, the proposed implicit theories (*direct*, *interpretive* and *constructive*) attest to the theoretical structure, since the scenarios described were identified just as they were in the field of music (Bautista et al., 2010).

This study shows significant differences between various groups based on the demographic aspects analysed. The clearest and most relevant differences are IT preferences among flamenco dance students from Japan and Spain. As previously mentioned, there are many flamenco dance schools in Japan (Jensana, 2013; Ugarte, 2012). This interest in flamenco dance in Asian countries has sparked research on its inclusion in the classroom, leading to pilot programmes aimed at boosting how it is taught (Lee et. al., 2020). In this study, flamenco dance students from Japan show a marked preference for *direct theory* (*Learning* and *Teaching*), which is based on the idea that simple exposure to content guarantees learning, which in turn is understood as the faithful reproduction of the model to be imitated. In the case of flamenco dance, this would be a form of face-to-face kinesthetic learning (Karkou et al., 2008) with characteristics similar to the reproductive styles of physical education teaching (Mosston & Ashworth, 1993). This model of reproduction/imitation has also appeared in studies on flamenco guitar, in which the teacher proposes pieces and demonstrates how to play them to the students (Casas, 2013), becoming their main point of reference (Casas-Mas et al., 2015). Similarly, other research studies indicate that the sensory model is the fundamental method for teaching & learning content for flamenco dance students in Japan (Van Ede, 2012), which underpins the cliché of imitating the teacher (Van Ede, 2014). However, regarding the IT of *Teaching* and *Evaluation*, in our study flamenco dance students in Japan show a greater tendency towards interpretive theory, which highlights the importance of processes, as also found recently in other studies (Vallejo-Ruiz, & Torres-Soto, 2020). This IT duality responds to the fact that teaching and learning processes are transitional, with a tendency to produce the desired conceptual change (Gómez & Guerra, 2012).

On the other hand, this study shows that in Spain flamenco dancers prefer constructive (Learning, Evaluation) and interpretive (Teaching) theories. *Interpretive theory* connects the process with the results. Therefore, various conditions act on the student's behaviour and lead to learning outcomes. Greater importance is given to the process, since in reality, *interpretive theory* is a more sophisticated version of *direct theory* (Scheuer et al., 2006). This evolution towards placing importance on the teaching process has been observed in studies on flamenco dance (De las Heras-Fernández & García-Gil, 2019) and is connected to the reproduction-style task assignment of Mosston & Ashworth (1993), in which students have some autonomy in processing and practising exercises. In addition, this study points to the preference of Andalusian flamenco students for interpretive theory in teaching. Several studies in the region of Andalusia highlight this as the fundamental focus of flamenco dance teaching (De las Heras-Monastero, 2018), where various research proposals have been made to introduce flamenco in the classroom (De las Heras-Monastero, 2009; Pardo & Pacheco-Álvarez, 2014). On the other hand, this study reflects the preference of flamenco dance students in the region of Valencia for *constructive theories* in the *Teaching* modality. However, other studies on ITs in the same region point to differences between the implicit theories and teaching orientations depending on the type of teacher training (Ros, 2014). Furthermore, this constructivist profile is related to productive teaching styles such as *problem-solving* and a *divergent style* (Mosston & Ashworth, 1993). These are more creative styles in which the students are more actively involved in their own learning. In the teaching of flamenco dance, this implies that students design their own movements or steps and that "different people can give meaning to the same information in multiple ways" (Scheuer et al., 2006, p. 126) since there are infinite expressions through movement (Engelsrud, 2007). The preference of flamenco dance students in Spain for constructive theories coincides with the results of studies that report student satisfaction with the problem-solving style when learning flamenco dance (De las Heras-Fernández et al., 2019; De las Heras-Fernández & Espada, 2020).

In short, beyond this study's statistically significant associations, it cannot be confirmed that there is only one clear trend in pure IT profiles, but rather a certain coexistence of the three theories in the three dimensions of learning, teaching, and evaluation, as reflected in other studies (Vallejo-Ruiz & Torres-Soto, 2020). *Interpretive* and *constructive* theories respond to more current approaches that allow for conceptual changes (Gómez & Guerra, 2012). Thus, teachers of related fields, such as music, have elements of traditional behavioural theory and lean towards constructivist approaches in their discourse, although their approaches respond to traditional theories (Roa, 2014). However, in a society aiming for the development of more constructivist teachers (Gómez & Guerra, 2012), the implementation of teacher training should be considered in line with studies indicating that teachers with more constructive approaches report having received more training (Cossío & Hernández, 2016). For this reason, flamenco dance teachers who work in different educational contexts are invited to attend training courses on constructivists teaching models, which should be adapted to the most recent approaches in education.

Further research in this area is necessary, using larger samples with a more balanced gender distribution even though there is a higher percentage of women in dance.

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