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Effect of different teaching methods (reciprocal and shelf-check TS) on learning and performance of traditional Greek dance

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ABSTRACT

This study investigated the effect of reciprocal, self-check, and command TS on the learning and dance performance of Greek traditional dances. A total of 128 university students, were divided into three groups and taught six dances. The reciprocal experimental group, the self-check experimental group and the command control group. A two-way MANOVA indicated that in the Zonaradiko, Tsamiko and Pentozali dances, reciprocal and self-check TS scored higher ($p < 0.05$) than the command TS on individual criteria and overall performance. In the Xassapia and Tik-Double dances, only the criteria 'dance recognition', 'qualitative movement elements' and 'expressiveness' were superior. In the Enteka dance no differences ($p > 0.05$) were observed. Similarly, reciprocal, and self-check TS did not differ from each other, except of 'qualitative movement elements' and 'expressiveness' in the Pentozali dance, where reciprocal showed higher values ($p < 0.05$). The females' dance performance was better than that of male students, regardless of the TS. The use of reciprocal, and self-check TS effectively contributes to the learning of Greek dance. A quality learning environment is promoted, where decision-making initiatives are delegated to students, enhancing the skills of collaboration, observation, heteroevaluation, self-assessment, and self-regulation, necessary in their lives, in general.

Introduction

The way traditional Greek dance was learnt during its 'first existence' (Koutsouba 1991, 1997) was mainly through observation and imitation of the elders by the children of each local community (Prantsidis 2005). The abolition of this process, because of the rupture of the traditional way of life in Greece, led to its organised teaching with the main objective of achieving a good dance performance and individual goals, initiation into the Greek dance tradition and its preservation, cultivation of group dynamics and communication, development of students' motor skills and their expressive and creative abilities, and development of their musical-motor skills.

Greece has a very large number of traditional dances, each with a different name, and a variety of musical melodies and songs that accompany each dance. Effective teaching of these dances is a challenge, as each teacher should use the most appropriate teaching method according to the objectives pursued. It is argued (Prantsidis 2005) that their teaching should be combined with the teaching of music, as the dominant element is the existence of an absolute identification of music and movement. The precise determination of the relationship between rhythmic and kinetic elements of dances, as well as their verbal expression through rhythmic numbering, leads in teaching to a two-dimensional verbal expression: a) the rhythmic numbering of the time duration of each movement and b) the rhythmic numbering of the number of movements that make up the individual structural forms of the dance (Vavritsas 2004; Vavritsas and Vavritsas 2011).

In the literature, there are two basic methods that are considered suitable for teaching Greek Traditional Dances (GTD). The total method and the partial method (Karfis and Ziaka 2009; Vavritsas 2008). The total or synthetic method refers to the teaching of the whole dance when it consists of simple movements in a simple rhythm or when the students have had several experiences of movement dance and are at a high level. The partial or analytical method is used when the dance to be taught is complex, with many different kinetic motives that can be adapted to more complex rhythms. The term 'kinetic motive' refers to the smallest closed rhythmic-motor unit that can be repeated frequently in dance. It consists of two or more movements and usually corresponds to a musical metre. The dance is broken down into the kinetic motives that make it up, and each is taught separately until the student has mastered it. Kinetic motives are then joined so that the dance can be performed (Serbezis 1995). A variation of the partial method is the progressive partial method, where parts of the dance are taught in sections, but synthetically, according to their sequence in the dance movement (Nikolaki et al. 2021). There are also several teaching approaches to GDT that result from combining the methods of the two categories of teaching, which take the form of the 'antithetical pair': a) teacher-centred, student-centred, and b) total-partial method (Chatzopoulos 2012).

A proposed teaching method based on imitation of the teacher model is the method of common kinetic motives (Serbezis 1995). In its application, depending on the dances the teacher has planned to teach, the teacher first concentrates on learning the common kinetic motives of these dances and then proceeds to teach them. It has been shown to be superior to the traditional-conventional method in children's kinetic and dance performance (perception of rhythm, musical phrase, kinetic motive, kinetic phrase, but also perception of side, direction, front, and body image).

The morphological method of teaching Greek traditional dance (GTD) was proposed by Tyrovola and Koutsouba (2006) and is based on the morphological analysis of the dance, both in terms of structure and style, highlighting the basic kinetic motives of the dances and the way they are combined, resulting in the formation of diversity. It is based on the analysis and synthesis of the form of the dance and is concerned with teaching its technique. In its application, basic structural forms are taught first, in relation to space and time, followed by the teaching of more complex forms, either at the level of kinetic motives or at the level of dance phrases. Knowledge of the structural levels of dance is a prerequisite.

In the imitation method, a model (teacher or student) demonstrates the dance, as in the total method. The students perform it by observing and repeating it,

trying to mimic and compare their movements with those of the model to imprint, assimilate and automate them. This method is considered suitable for children, as they have developed the ability to observe and mimic (Tsorbatzoudis 2008).

The study of the contribution of the Laban notation system (Labanotation/Kinetography Laban and Effort/Shape) to the teaching of Greek Traditional Dance has shown that it is fully compatible with the structural-morphological elements of GTD. Therefore, it can be used in its teaching and can be combined with all of its teaching methods. The combination of the teacher's demonstration of the dance together with the rhythmic, kinetic, and symbolic exploration of the four key concepts of movement, which are a) knowledge of the body, b) movement in space, c) sense of effort, and d) relationships developed between body parts, between dancers, and between dancers and objects, is proposed as a new methodological approach (Dania, Tyrovola, and Koutsouba 2013). It is noted that its application in different dance educational environments will further validate the suitability of the above method, but with the prerequisite of knowing the basic principles of the above system and how it works (Koutsouba and Giossos 2006).

Teaching GTD using the method of musical-kinetic education arouses the interest of students, their active participation, and the development of their knowledge, motor, and creative abilities to a great extent (Lykesas, Koutsouba, and Tyrovola 2009). The implementation of GTD interdisciplinary teaching programmes could motivate students' interest and communication between them (Stivaktaki, Mountakis, and Bournelli 2010), while the use of drama (Lykesas et al. 2014) as a teaching approach is a methodological tool for developing students' cultural awareness by helping them to understand elements of tradition, history, traditional music, song, and dance (Lykesas et al. 2018).

The development of an online learning environment, known as WebDance, is proposed to understand dance in terms of its kinetic and cultural elements (Karkou, Bakogianni, and Kavakli 2008), while the creation of an open database, known as Open Dance, provides information on traditional Greek dance and suggestions for teaching scenarios (Damianakis, Tsadima, and Tsatsos 2009). Finally, video recordings of experienced dancers, where symbols such as numbers and traces and explanatory text notes are added to the videos at the same time as the performance, help learners to understand the rhythm and movements of each dance (Tsiatsos et al. 2010).

Based on the characteristics of the above teaching approaches, it can be concluded that GTD teaching is mainly carried out through teacher-centred methods, where the model imitation method prevails. It is a standardised procedure in which the degree of initiative given to the learner is minimal, as any deviation from the model's instructions is considered an alteration.

Teaching styles

The term Teaching Styles refers to a group of pedagogical strategies that constitute a method, a way of achieving a teaching objective (Digelidis 2007). The term was originally used by Mosston (1966), who classified teaching methods based on the axiom that teaching is a decision-making process, identifying 11 different styles, the main criterion being 'who makes the decisions in physical education'. For Mosston

(1966), the value of each style is linked to the student's decision-making and independence.

In Command Style, the student is completely dependent on the teacher's cues. The aim is to learn an activity accurately, in as short a time as possible, under the teacher's guidance, and it is widely used in physical education. In the reciprocal style, part of the decision-making is delegated to the pupil, who, as an observer-assistant, gives feedback to his classmate based on criteria prepared beforehand by the teacher. Students receive increased and immediate feedback during practise (Mosston and Ashworth 2002; Townsend and Mohr 2002). Student performance and positive interaction between pairs have been found to improve with the use of the reciprocal style, and students describe the feedback given to each other as very helpful (Goldberger, Gerney, and Chamberlain 1982). Effective in learning and retention of basketball skills (Digelidis et al. 2018; Kolovelonis, Goudas, and Gerodimos 2011), as effective as the command style in teaching tennis (Iserbyt 2013), but less effective than the command style in teaching volleyball motor skills (Zeng et al. 2009).

In the Self-Check Style, students practise and self-evaluate with a commitment to check whether they are performing correctly or not (Mosston and Ashworth 2002). It is challenging for them as it is a different way of performing than they are used to (Byra 2006). Its use in combination with the goal-setting technique has positive effects on learning and motivation of students (Zimmerman and Kitsantas 1996). It makes the learner responsible, independent and most importantly self-regulated (Digelidis et al. 2018; Kolovelonis, Goudas, and Gerodimos 2011). Effective in improving performance in sports activities (Abd Al-Salam and Al-Naddaf 2004; Patmanoglou et al. 2007).

Pitsi, Digelidis and Papaioannou (2015) investigated the effect of reciprocal teaching, self-check style, and command style on motivational factors when teaching traditional Greek dance and concluded that the self-check style causes a significantly greater increase in intrinsic motivation, identified regulation, satisfaction, and autonomy compared to reciprocal teaching and command styles. It is also associated with a decrease in extrinsic motivation.

The cognitive development of the students when learning dance with the convergent discovery style (G) is higher compared to the command style (A). Furthermore, this style is much more attractive to students because it gives them more freedom to work at their own pace, which contributes to the development of creativity, cooperation, and dynamism (Cuellar-Moreno and Caballero-Juliá 2019). Additionally, women achieve greater attention and clarity when using the convergent discovery teaching style and more repair when using the command teaching style. Men, on the other hand, have slightly higher scores in the three variables of attention, clarity, and repair in the convergent discovery teaching style compared to the command teaching style (de Las Heras-Fernández et al. 2022).

Syrmpas and Digelidis (2014) investigated the experiences of physical education student teachers with and perceptions of teaching styles and found that, as primary and secondary students, they were more frequently exposed to reproduction teaching styles in their physical education classes, while exposure to what can be described as productive styles was significantly less frequent. In terms of beliefs, the student-teachers who participated in the study perceived that reproductive teaching styles provided students with more opportunities for fun, learning skills, and motivation to learn.

Furthermore, as future physical education teachers, the student teachers stated that they were more likely to implement teaching styles from the reproduction cluster. Finally, the results of the study confirmed the ideas of the student teachers about the learning process of their students, which were influenced by their previous experiences as students.

Objective

Based on the above, the objective of this research was to investigate the effect of three different teaching styles, namely command, reciprocal, and self-check, on the learning of traditional Greek dances.

Methodology

Participants

128 students aged 18–20 years participated voluntarily in the study, divided into six sections. Three sections of male students and three sections of female students were divided into three groups of two (one section of male students and one section of female students). One group taught the dances in the reciprocal teaching style, one group taught the dances in the self-check style, and one group taught the dances in the command style. For this study, only beginners in traditional dance and the dances included in this study were approved to participate.

Design of the study

To test the effect of teaching styles on learning (cognitive and motor) of Greek dance, two experimental groups and one control group were created. In the experimental groups, two different teaching styles were used, the reciprocal teaching style and the self-check style, while in the control group, the command style was used as the teaching method, since it is the usual practise in teaching traditional Greek dance. For this research, the traditional dances of Xassapia, Zonaradiko, Tsamiko, Tik double, Pentozali, and Enteka were selected. The selection of these dances was based on the existence of a variety of musical metres and rhythmic treatments, different kinetic motives and dance shapes in terms of space use, and different regions of origin of the dances.

Each group consisted of a male and female section of students. All groups were taught the same dances, in the same order and for the same amount of time. What differentiated the learning process between the three groups was the teaching style. In the experimental groups, the use of both the reciprocal teaching style and the self-check style gave participants the opportunity to participate more actively, as some decisions, especially in the implementation and evaluation phases of the course, were made by participants themselves. In the control group, the command style, the usual teaching method, was used without giving any special instructions.

To better implement the intervention programme, one lesson was dedicated to informing and preparing the students for the teaching style in which they would be taught the six (6) dances. The reciprocal teaching groups were given a demonstration by a pair of students who were given the criteria card of a dance other than the

planned ones in order to familiarise themselves with how to use it and to understand each person's role in relation to their partner and the teacher. After the demonstration by the couple, the entire group was divided into pairs to practise the use of the particular teaching style.

A similar demonstration of how to use the criteria card was given to the self-check style group, followed by practise of this style to help each student understand how to work in relation to themself and receive feedback from the teacher. The aim of the project was to familiarise the students with the new reality they would have to face, where they would be given the freedom to manage the predetermined time of the course, the place where it would be held, and the way in which they would evaluate either their fellow students or themselves. Practising in pairs (reciprocal teaching) or individually (self-check style) limited the stifling constraints of simultaneous practise for the whole class. The duration of each exercise or the transition to the next, as well as the choice of the practise area, was left to the students.

The intervention programme lasted a total of six weeks. Each intervention session consisted of 1) teaching a single dance and 2) recording each participant individually after teaching for cognitive and motor evaluation. The students were informed that their participation was voluntary and anonymous and that they could withdraw from the project at any time, certainly without any requirement or obligation on their part.

Experimental procedure

To carry out the three different learning courses of each dance, a series of steps were taken: a) based on the structural morphological analysis system of Martin and Pesovár (1961) and the International Folk Music Council (International Folk Music Council - IFMC 1974), structural analysis cards were made to identify the structural-morphological elements of each dance; b) six lessons were designed for each group ('reciprocal, shelf-check, and command') with the main objectives of developing rhythmic perception and learning the dance motive of each dance; and c) criteria cards for reciprocal (couples) and shelf-check (individuals) styles were prepared for teaching the six dances.

In Greek dance, the final performance of the form depends directly on the understanding of the kinetic motives, the quality of their execution, which is enhanced by the movements of other parts of the body, and the synchronisation of all the movements with the music. For this reason, special attention and emphasis have been paid to the use of specific, clear, concise, and comprehensive terminology in the construction of criteria cards to make them understandable and, therefore, easy and effective to use. This is considered essential for both the student performing and the fellow student observing and giving feedback, at a time when neither of them knows the dance form being performed ('reciprocal teaching'). The same applies to the self-check teaching style, as the student, although unfamiliar with the dance, is required to understand, perform, and then check and self-assess based on the criteria and feedback from the teacher.

Each criterion card has been divided into three individual learning objectives: 1) developing the perception of the rhythm of each dance; 2) learning the kinetic motives of each dance and their synchronisation with its melody; and 3) learning the dance form of each dance and its synchronisation with its melody. The consolidation of the dance

motive was done using a variety of melodies for each dance, with the specific aim of developing knowledge of the number of songs and melodies accompanying the dances studied.

The exercises for all the learning objectives were common to all students. To develop the perception of the rhythm of each dance according to its metrical organisation, three exercises were created for each dance with observable criteria related to: a) the students' motor response, namely, their ability to perform with hand the parts of the musical metres of each dance (equal (2/4, 6/8, 3/4) or unequal (5/8, 9/8) and b) their ability to rhythmically count these strokes. The exercises for the other objectives mentioned above were concerned with learning the kinetic motives and learning the form of the dance, namely, the set of movements of the dance, depending on the level of difficulty of the dance. Accordingly, the observable criteria initially related to the type of steps (simple-complex), direction, body position, and hand holding, emphasis on qualitative elements of the movement and their synchronised execution with the dance music. After a series of repetitions of each exercise, the student observer (reciprocal teaching) or the student himself (self-check style) would note on the criteria card whether the criterion had been met or whether there was a need for improvement. Each pair of students (reciprocal teaching) or each student individually (self-check style) was allowed to take as much time as they felt they needed to complete each exercise, moving on to the next one at their own pace. Any pair or participant who completed the exercises of all learning objectives was instructed to stay on the last one until the entire group was assembled. The aim was to improve group coordination by having the whole group perform the form of each dance at the same time, in a circle.

Before the main part of the class, the teacher gave an introduction by first referring to the identity elements of each dance (name, origin, gender and arrangement of dancers, scheme, holding, dance circumstances). Then he referred to the music-movement elements of each dance (musical metre, parts of the musical metre, rhythmic treatment, set of movements – steps) and finally he demonstrated the parts of the musical metre of each dance by hand clapping, subjecting the students to the corresponding learning process that would follow. At the same time, he emphasised the usefulness of the above demonstration because in Greek dance, each kinetic motive generally corresponds to a musical metre, but mainly each part of the musical metre corresponds to a movement.

After all the above, he demonstrated each dance, sometimes repeating the dance form with the accompaniment of music. During the learning of each dance, either in the reciprocal teaching style or in the self-check style, the teacher did not demonstrate the dance. Students started and worked by consulting the criteria card prepared by them beforehand (lesson preparation phase). The pairing was the sole decision of the students themselves and was based on their potential friendship with each other and not on their level of ability.

Each student, without any knowledge of the dance, performed the exercises from the description on the card, taking as much time as they felt they needed, moving on to the next exercise whenever they felt ready, and receiving feedback from the student-observer (reciprocal teaching). The student-observer, without knowing the dance either, observed, noted on the card what he observed about the student's performance, and gave feedback only in consultation with the teacher. Similarly, each student in the group worked in

a self-check style. Each student performed the exercises of each dance by observing, evaluating and giving feedback to himself based on the card criteria and in consultation with the teacher.

During the learning process, the couples (reciprocal teaching) or each student (self-check) moved in their own space, learning the dance form, but also in their own time, trying to gradually synchronise with the music. It is clarified that from the beginning and throughout the above process there was accompaniment of the corresponding melody of each dance without interruption. At the end of the teaching of each dance, each student was videotaped for final evaluation.

Description of the instruments

In order to assess the students in the motor and cognitive domain of learning Greek dance, an analytical rubric specific to the assessment of Greek dance was used, consisting of eight criteria (dance recognition, response to dance rhythm, synchronisation, sequence of steps, direction-scheme-hand holding, body stance and position, quality of movement, expressiveness) with five levels of performance for each (excellent, very good, moderately acceptable, marginally acceptable, not acceptable) (Pitsi, Digelidis, and Filippou 2013).

Statistical analysis

A two-way multivariate analysis of variance (MANOVA) was used to investigate the differences between teaching styles and gender in the set of criterion variables corresponding to the learning of each dance, and the Bonferroni multiple comparison test was used to determine individual differences. The Sidak control test was used to analyse the resulting interactions. The significance level was established at $p < 0.05$.

Results

Dance Xassapia

Two-way (2×3) multivariate analysis of variance (two-way MANOVA) was used to examine gender and teaching style differences in the linear combination of dependent variables, dance recognition, response to dance rhythm, synchronisation, step sequence, direction-scheme-hand holding, body stance and position, movement quality, expressiveness and overall performance. Analysis revealed a statistically significant multivariate interaction between gender and teaching style (Wilks' Lambda = 0.515, $F_{18,150} = 3.283$, $p = 0.000$, $\eta2 = 0.283$), statistically significant multivariate effect of gender (Wilks' Lambda = 0.719, $F_{9,75} = 3.249$, $p = 0.002$, $\eta2 = 0.281$) and teaching style (Wilks' Lambda = 0.695, $F_{18,150} = 1.661$, $p = 0.052$, $\eta2 = 0.166$). Examination of the univariate analyses revealed a statistically significant interaction with the variables of movement quality ($F_{2,83} = 4.156$, $p = 0.019$, $\eta2 = 0.091$) and expressiveness ($F_{2,83} = 3.212$, $p = 0.045$, $\eta2 = 0.072$), a main effect of gender on the variables of synchronisation ($F_{1,83} = 9.475$, $p = 0.003$, $\eta2 = 0.102$), step sequence ($F_{1,83} = 18.130$, $p = 0.000$, $\eta2 = 0.179$), direction-scheme-hand holding ($F_{1,83} = 5.948$, $p = 0.017$, $\eta2 = 0.067$) and overall performance

($F_{1,83} = 8.876$, $p = 0.010$, $\eta2 = 0.097$). There was also a statistically significant main effect due to teaching style on the dance recognition variable ($F_{2,83} = 4.478$, $p = 0.014$, $\eta2 = 0.097$).

When analysing the interaction separately for each level of the gender factor, statistically significant differences between teaching styles were found only for female students ($F_{2,83} = 6.989$, $p = 0.002$, $\eta2 = 0.144$) and not for male students ($F_{2,83} = 0.586$, $p = 0.559$, $\eta2 = 0.014$) on variable movement quality. The female students in the reciprocal style scored higher in movement quality than the female students in the command style ($p = 0.001$), and the female students in the self-check style scored higher than the female students in the command style ($p = 0.040$). For the expressiveness variable, a statistically significant main effect was also found only for female students ($F_{2,83} = 6.078$, $p = 0.003$, $\eta2 = 0.128$) and not for male students ($F_{2,83} = 0.793$, $p = 0.456$, $\eta2 = 0.019$), where again the reciprocal and self-check female students scored statistically higher than the command female students ($p = 0.004$ and $p = 0.030$ respectively).

Analysing the interaction separately for each level of the teaching style factor, it was found that for the movement quality variable there was a statistically significant main effect of the reciprocal ($F_{1,83} = 6.748$, $p = 0.011$, $\eta2 = 0.075$) and self-check ($F_{1,83} = 5.526$, $p = 0.021$, $\eta2 = 0.062$) styles, but not of the command style ($F_{1,83} = 1.161$, $p = 0.284$, $\eta2 = 0.014$). In particular, female reciprocal students scored significantly higher in movement quality than male reciprocal students ($p = 0.011$), as did female self-check students than male self-check students ($p = 0.021$). There was also a statistically significant main effect of the reciprocal style ($F_{1,83} = 5.521$, $p = 0.021$, $\eta2 = 0.062$) and the self-check style ($F_{1,83} = 7.873$, $p = 0.006$, $\eta2 = 0.087$), but not the command style ($F_{1,83} = 0.285$, $p = 0.595$, $\eta2 = 0.003$) on the expressiveness variable. Specifically, reciprocal female students scored significantly higher in expressiveness than reciprocal male students ($p = 0.021$), as did self-check female students compared to male students of the same style male students ($p = 0.006$).

When analysing the main effects of the gender factor, it was found that there was a statistically significant main effect on a) synchronisation ($F_{1,83} = 9.475$, $p = 0.003$, $\eta2 = 0.$ 102), b) step sequence ($F_{1,83} = 18.130$, $p = 0.000$, $\eta2 = 0.179$), c) direction-scheme-hand holding ($F_{1,83} = 5.948$, $p = 0.017$, $\eta2 = 0.067$) and e) overall performance ($F_{1,83} = 8.876$, $p = 0.004$, $\eta2 = 0.097$). More specifically, all female students scored significantly higher than male students on all of the above variables. There was a statistically significant main effect of the teaching style factor on the dance recognition variable. According to Bonferroni's multiple comparison test, all participants in both reciprocal and self-check styles scored significantly higher than all participants in the command style ($p = 0.034$ in both cases) (Table 1).

Zonaradikos Dance

A two-way (2×3) multivariate analysis of variance (two-way MANOVA) was used to examine the differences between gender and teaching style in the linear combination of the dependent variables mentioned above. Analysis showed that there was no statistically significant multivariate interaction between gender and teaching style (Wilks' Lambda = 0.749, $F_{18,128} = 1.103$, $p = 0.357$, $\eta2 = 0.134$). However, there was a statistically

Table 1. Means and standard deviations of the three teaching styles (male-female students) on the variables of the Xassapia dance.

Evaluation variables	Reciprocal (Experimental group)			Shelf-Check (Experimental group)			Command (Control group)			Total	
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
Dance recognition	5.0 ± 0.0	5.0 ± 0.0	$5.0 \pm 0.0^{\varepsilon}$	5.0 ± 0.0	5.0 ± 0.0	$5.0 \pm 0.0^{\varepsilon}$	4.6 ± 1.0	4.5 ± 1.2	4.6 ± 1.1	4.9 ± 0.6	4.9 ± 0.7
Response to dance rhythm	4.8 ± 0.4	4.9 ± 0.3	4.9 ± 0.4	4.7 ± 0.4	4.7 ± 0.8	4.7 ± 0.6	4.5 ± 0.8	4.9 ± 0.2	4.7 ± 0.7	4.7 ± 0.6	4.8 ± 0.5
Synchronisation	3.4 ± 0.9	4.3 ± 1.1	3.8 ± 1.1	3.4 ± 1.2	4.0 ± 1.2	3.7 ± 1.2	3.3 ± 1.2	4.0 ± 1.3	3.6 ± 1.3	3.3 ± 1.1	$4.1 \pm 1.16^{\zeta}$
Sequence of steps	3.7 ± 1.0	4.3 ± 1.0	4.0 ± 1.0	3.5 ± 1.0	4.4 ± 1.0	3.9 ± 1.1	3.1 ± 1.0	4.3 ± 0.9	3.6 ± 1.1	3.4 ± 1.0	$4.3 \pm 1.0^{\zeta}$
Direction-scheme-hand holding	4.3 ± 0.7	4.5 ± 0.8	4.4 ± 0.7	4.0 ± 0.9	4.4 ± 0.9	4.2 ± 0.9	4.0 ± 1.0	4.6 ± 0.5	4.3 ± 0.8	4.1 ± 0.8	$4.5 \pm 0.7^{\zeta}$
Body stance and position	4.0 ± 0.8	4.1 ± 0.9	4.1 ± 0.9	3.5 ± 0.8	3.9 ± 1.0	3.7 ± 0.9	3.5 ± 1.0	4.0 ± 0.8	3.7 ± 0.9	3.7 ± 0.9	4.0 ± 0.9
Quality of movement	3.0 ± 0.9	$3.9 \pm 1.2^{\alpha,\gamma}$	3.4 ± 1.2	2.6 ± 0.9	$3.5 \pm 0.9^{\alpha,\gamma}$	3.0 ± 1.0	2.9 ± 1.1	2.5 ± 1.0	2.7 ± 1.1	2.8 ± 1.0	3.3 ± 1.2
Expressiveness	2.9 ± 0.9	$3.7 \pm 1.2^{\alpha,\gamma}$	3.3 ± 1.1	2.4 ± 0.9	$3.4 \pm 0.8^{\alpha,\gamma}$	2.9 ± 1.0	2.7 ± 0.9	2.5 ± 1.1	2.6 ± 1.0	2.7 ± 0.9	3.2 ± 1.1
Overall performance	3.9 ± 0.5	4.4 ± 0.8	4.1 ± 0.7	3.6 ± 0.7	4.2 ± 0.7	3.9 ± 0.7	3.6 ± 0.9	3.9 ± 0.7	3.7 ± 0.8	3.7 ± 0.7	$4.2 \pm 0.7^{\zeta}$

α: $p < 0.05$ by the same sex in command style δ: $p < 0.05$ by the total self-check.
β: $p < 0.05$ by the same sex in self-check style ε: $p < 0.05$ by the total command.
γ: $p < 0.05$ by male students in the same teaching style ζ: $p < 0.05$ by male students in the total sample.

significant multivariate effect of sex (Wilks' Lambda = 0.708, F9,64 = 2.933, p = 0.006, η2 = 0.292) and teaching style (Wilks' Lambda = 0.466, F18,128 = 1.103, p = 0.000, η2 = 0.317).

Examination of the univariate analyses showed a statistically significant main effect of gender for a) direction-scheme-hand holding (F1,72 = 6.751, p = 0.011, η2 = 0.086), b) body stance and position (F1,72 = 8. 448, p = 0.005, η2 = 0.105), c) quality of movement (F1,72 = 18.273, p = 0.000, η2 = 0.202), d) expressiveness (F1,72 = 18.552, p = 0.000, η2 = 0.205) and e) overall performance (F1,72 = 7.569, p = 0.008, η2 = 0.095). In all the above variables, the female students scored significantly higher than the male students.

For the teaching style factor, univariate analyses showed a statistically significant main effect on the response to dance rhythm, (F2,72 = 6.308, p = 0.003, η2 = 0.149), with all participants in reciprocal and self-check styles scored significantly higher than those in command style (p = 0.010 and p = 0.015, respectively). On synchronisation, (F2,72 = 3.219, p = 0.046, η2 = 0.082) participants in the reciprocal style scored significantly higher than participants in the command style (p = 0.049). In the step sequence (F2,72 = 5.374, p = 0.007, η2 = 0.130), reciprocal participants also outperformed command style participants (p = 0.009). In the movement quality (F2,72 = 10.103, p = 0.000, η2 = 0.219), both reciprocal and self-check participants outperformed command style participants (p = 0.001 and p = 0.003, respectively). In expressiveness (F2,72 = 10.751, p = 0.000, η2 = 0.230), reciprocal and self-check participants also scored significantly higher than command style participants (p = 0.002 and p = 0.001, respectively). Finally, in overall performance, (F2,72 = 6.761, p = 0.002, η2 = 0.158) it was also found that participants in the reciprocal and self-check style scored significantly higher than participants in the command style (p = 0.005 and p = 0.025, respectively), (Table 2).

Tsamikos Dance

Two-way (2×3) multivariate analysis of variance (two-way MANOVA) showed that there was no statistically significant multivariate interaction between gender and teaching style (Wilks' Lambda = 0.647, F18,114 = 1.543, p = 0.088, η2 = 0.196). However, there was a statistically significant multivariate effect of sex (Wilks' Lambda = 0.629, F9,64 = 2.933, p = 0.001, η2 = 0.371) and teaching style (Wilks' Lambda = 0.647, F18,114 = 1.747, p = 0.041, η2 = 0.216). Examination of the univariate analyses showed that there was a statistically significant main effect of sex on synchronisation, (F1,65 = 9.845, p = 0.003, η2 = 0.132), body stance and position, (F1,65 = 7. 381, p = 0.008, η2 = 0.102), quality of movement, (F1,65 = 21.775, p = 0.000, η2 = 0.251), expressiveness (F1,65 = 24.268, p = 0.000, η2 = 0.272) and overall performance (F1,65 = 8.399, p = 0.005, η2 = 0.114). In all the variables above, all female students scored significantly higher than all male students, regardless of the teaching style in which they were taught the dance.

Examination of the univariate analyses showed that there was a statistically significant main effect of the teaching style on a) response to the dance rhythm (F2,65 = 5.619, p = 0.006, η2 = 0.147), b) synchronization (F2,65 = 3.852, p = 0.026, η2 = 0.106), c) step sequence (F2,65 = 3.429, p = 0.038, η2 = 0. 095), d) direction-scheme-hand holding (F2,65 = 4.290, p = 0.018, η2 = 0.117), e) body stance and position (F2,65 = 7.047, p = 0.002, η2 = 0.178), f) movement quality (F2,65 = 9. 812, p = 0.000, η2 = 0.232), g)

Table 2. Means and standard deviations of the three teaching styles (male-female students) on the variables of the Zonaradiko dance.

Evaluation variables	Reciprocal (Experimental group)			Shelf-Check (Experimental group)			Command (control group)			Total	
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
Dance recognition	4.4 ± 1.3	4.8 ± 0.6	4.6 ± 1.0	4.7 ± 1.0	4.7 ± 1.1	4.7 ± 1.0	4.3 ± 1.3	4.4 ± 1.4	4.3 ± 1.3	4.5 ± 1.2	4.6 ± 1.1
Response to dance rhythm	4.5 ± 1.0	4.8 ± 0.4	4.6 ± 0.7$^\varepsilon$	4.5 ± 0.9	4.4 ± 1.4	4.5 ± 1.2^E	3.3 ± 1.7	3.6 ± 2.0	3.5 ± 1.6	4.1 ± 1.4	4.1 ± 1.4
Synchronisation	4.6 ± 0.6	4.7 ± 0.7	4.63 ± 0.7$^\varepsilon$	3.3 ± 1.5	4.5 ± 1.0	3.9 ± 1.4	3.8 ± 1.2	3.7 ± 1.6	3.8 ± 1.4	3.8 ± 1.3	4.2 ± 1.3
Sequence of steps	4.5 ± 0.5	4.5 ± 1.0	4.5 ± 0.8$^\varepsilon$	3.8 ± 1.3	4.5 ± 1.1	4.1 ± 1.2	3.2 ± 1.0	3.7 ± 1.5	3.5 ± 1.3	3.8 ± 1.1	4.1 ± 1.3
Direction-scheme- hand holding	3.7 ± 1.2	4.5 ± 1.2	4.1 ± 1.2	3.3 ± 1.3	4.4 ± 0.9	3.8 ± 1.3	3.2 ± 1.0	3.4 ± 1.4	3.4 ± 1.3	3.4 ± 1.2	4.02 ± 1.3$^\zeta$
Body stance and position	3.4 ± 1.1	4.3 ± 1.2	3.8 ± 1.2	3.1 ± 1.3	4.3 ± 1.1	3.7 ± 1.3	2.9 ± 1.1	3.2 ± 1.3	3.1 ± 1.2	3.1 ± 1.2	3.8 ± 1$^\zeta$
Quality of movement	3.0 ± 0.9	4.1 ± 1.1	3.5 ± 1.2$^\varepsilon$	2.7 ± 1.2	4.0 ± 1.2	3.3 ± 1.3$^\varepsilon$	1.8 ± 0.8	2.7 ± 1.3	2.3 ± 1.2	2.5 ± 1.1	3.5 ± 1.4$^\zeta$
Expressiveness	2.8 ± 0.9	3.8 ± 1.1	3.3 ± 1.1$^\varepsilon$	2.6 ± 1.2	3.9 ± 1.1	3.2 ± 1. + 3$^\varepsilon$	1.5 ± 0.8	2.6 ± 1.3	2.1 ± 1.2	2.3 ± 1.1	3.3 ± 1.3$^\zeta$
Overall performance	3.8 ± 0.7	4.4 ± 0.7	4.1 ± 0.8$^\varepsilon$	3.5 ± 1.0	4.3 ± 0.9$^\alpha$	3.9 ± 1.0$^\varepsilon$	3.0 ± 0.8	3.4 ± 1.2	3.2 ± 1.1	3.4 ± 0.9	4.0 ± 1.1$^\zeta$

α: $p < 0.05$ by the same sex in command style δ: $p < 0.05$ by the total self-check.
β: $p < 0.05$ by the same sex in self-check style ε: $p < 0.05$ by the total command.
γ: $p < 0.05$ by male students in the same teaching style ζ: $p < 0.05$ by male students in the total sample.

expressiveness ($F_{2,65} = 9.957$, $p = 0.000$, $\eta2 = 0.235$) and h) overall performance ($F_{2,65} = 8.296$, $p = 0.001$, $\eta2 = 0.203$). Bonferroni's multiple comparison test showed that all reciprocal subjects performed better than command subjects in response to the dance rhythm ($p = 0.007$). The same was found for the direction-scheme-hand holding ($p = 0.026$). In the variable of body stance and posture, those who have taught reciprocal outperformed those who had been taught command style ($p = 0.005$), as did the subjects of self-check style ($p = 0.017$). Similar results were obtained for movement quality, with values of $p = 0.002$ for reciprocal versus command style and $p = 0.004$ for self-check versus command style. In expressiveness, with values $p = 0.001$ for reciprocal versus command and $p = 0.006$ for self-check versus command, and in overall performance, with values $p = 0.002$ for reciprocal versus command and $p = 0.029$ for self-check versus command (Table 3).

Tik-double dance

Two-way (2×3) multivariate analysis of variance (two-way MANOVA) showed that there was no statistically significant multivariate interaction between sex and teaching style (Wilks' Lambda = 0.726, $F_{18,106} = 1.023$, $p = 0.441$, $\eta2 = 0.148$). However, there was a statistically significant multivariate effect of sex (Wilks' Lambda = 0.531, $F_{9,53} = 5.198$, $p = 0.000$, $\eta2 = 0.469$) and teaching style (Wilks' Lambda = 0.482, $F_{18,106} = 2.591$, $p = 0.001$, $\eta2 = 0.306$). When examining the univariate analyses, there was a statistically significant main effect of sex on body stance and position ($F_{1,61} = 5.098$, $p = 0.028$, $\eta2 = 0.077$), movement quality ($F_{1,61} = 14.128$, $p = 0.000$, $\eta2 = 0.188$) and expressiveness ($F_{1,61} = 13.157$, $p = 0.000$, $\eta2 = 0.177$). In all the variables above, all female students scored significantly higher than all male students, regardless of the teaching style in which they were taught the dance.

Examination of the univariate analyses showed that there was a statistically significant main effect of the teaching style only on movement quality ($F_{2,61} = 4.974$, $p = 0.010$, $\eta2 = 0.140$), with all reciprocal subjects scoring significantly higher than all command style subjects ($p = 0.003$), and expressiveness ($F_{2,61} = 6.826$, $p = 0.002$, $\eta2 = 0.183$), with all reciprocal subjects scoring significantly higher than all command style subjects ($p = 0.001$), (Table 4).

Pentozali dance

Two-way (2×3) multivariate analysis of variance (two-way MANOVA) showed that there was a statistically significant multivariate interaction between gender and teaching style (Wilks' Lambda = 0.541, $F_{18,98} = 1.955$, $p = 0.020$, $\eta2 = 0.$ 264), as well as a statistically significant multivariate effect of gender (Wilks' Lambda = 0.585, $F_{9,49} = 3.866$, $p = 0.001$, $\eta2 = 0.415$) and teaching style (Wilks' Lambda = 0.369, $F_{18,98} = 3.522$, $p = 0.000$, $\eta2 = 0.393$). Examination of the univariate analyses showed that there was a statistically significant main effect of gender only on the dance recognition variable ($F_{1,57} = 10.133$, $p = 0.002$, $\eta2 = 0.151$), but also an interaction between gender and teaching style on the same variable. Analysing the interaction for each level of the gender factor revealed a statistically significant main effect only for male students ($F_{2,57} = 5.763$, $p = 0.005$, $\eta2 = 0.168$), but not for female students ($F_{2,57} = 0.075$, $p = 0.928$, $\eta2 = 0.003$).

Table 3. Means and standard deviations of the three teaching styles (male-female student) on the variables of the Tsamiko dance.

Evaluation variables	Reciprocal (Experimental group)			Shelf-Check (Experimental group)			Command (control group)			Total	
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
Dance recognition	5.0 ± 0.0	5.0 ± 0.0	5.0 ± 0.0	4.6 ± 1.2	4.6 ± 1.2	4.6 ± 1.2	4.6 ± 0.9	4.7 ± 1.0	4.7 ± 0.9	4.7 ± 0.8	4.7 ± 1.0
Response to dance rhythm	3.8 ± 1.6	4.6 ± 0.7	4.2 ± 1.3$^\varepsilon$	4.1 ± 0.7	3.5 ± 1.8	3.7 ± 1.5	3.1 ± 1.	2.7 ± 1.5	2.8 ± 1.4	3.6 ± 1.3	3.4 ± 1.6
Synchronisation	3.0 ± 1.5	4.7 ± 0.7	3.8 ± 1.5$^\varepsilon$	3.1 ± 1.5	3.7 ± 1.6	3.5 ± 1.6	2.1 ± 1.3	3.2 ± 1.6	2.8 ± 1.6	2.7 ± 1.5	3.7 ± 1.6$^\zeta$
Sequence of steps	4.2 ± 0.7	4.8 ± 0.4	4.5 ± 0.7$^\varepsilon$	4.4 ± 0.6	4.4 ± 0.9	4.4 ± 0.8	3.5 ± 1.4	4.0 ± 1.3	3.8 ± 1.3	4.0 ± 1.1	4.3 ± 1.1
Direction-scheme- hand holding	4.2 ± 0.6	4.8 ± 0.4	4.4 ± 0.6$^\varepsilon$	3.9 ± 0.6	4.2 ± 1.1	4.1 ± 1.0	3.3 ± 1.5	3.7 ± 1.3	3.6 ± 1.4	3.8 ± 1.1	4.1 ± 1.1
Body stance and position	3.4 ± 0.7	4.7 ± 0.5	3.9 ± 0.9$^\varepsilon$	3.6 ± 0.5	3.7 ± 1.1	3.7 ± 0.9$^\varepsilon$	2.8 ± 1.2	3.2 ± 1.1	3.0 ± 1.3	3.2 ± 0.9	3.7 ± 1.1$^\zeta$
Quality of movement	2.4 ± 1.1	4.5 ± 0.7	3.3 ± 1.4$^\varepsilon$	2.8 ± 0.7	3.3 ± 1.2	3.2 ± 1.1$^\varepsilon$	1.8 ± 0.7	2.6 ± 1.1	2.3 ± 1.0	2.3 ± 0.9	3.2 ± 1.3$^\zeta$
Expressiveness	2.4 ± 1.1	4.4 ± 0.7	3.3 ± 1.4$^\varepsilon$	2.6 ± 0.8	3.3 ± 1.2	3.1 ± 1.1$^\varepsilon$	1.8 ± 0.6	2.5 ± 1.1	2.2 ± 1.0	2.2 ± 0.9	3.2 ± 1.3$^\zeta$
Overall performance	3.5 ± 0.8	4.7 ± 0.4	4.1 ± 0.9$^\varepsilon$	3.6 ± 0.6	3.8 ± 1.1	3.8 ± 0.9$^\varepsilon$	2.9 ± 0.8	3.3 ± 0.9	3.1 ± 0.9	3.3 ± 0.8	3.8 ± 1.0$^\zeta$

α: $p < 0.05$ by the same sex in command style δ: $p < 0.05$ by the total self-check.
β: $p < 0.05$ by the same sex in self-check style ε: $p < 0.05$ by the total command.
γ: $p < 0.05$ by male students in the same teaching style ζ: $p < 0.05$ by male students in the total sample.

Table 4. Means and standard deviations of the three teaching styles (female-male students) on the variables of the Tik-Double dance.

Evaluation variables	Reciprocal (Experimental group)			Shelf-Check (Experimental group)			Command (control group)			Total	
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
Dance recognition	5.0 ± 0.0	5.0 ± 0.0	5.0 ± 0.0	4.6 ± 1.2	5.0 ± 0.0	4.8 ± 0.8	4.9 ± 0.3	4.6 ± 1.1	4.7 ± 0.8	4.8 ± 0.8	4.9 ± 0.6
Response to dance rhythm	4.2 ± 1.5	4.4 ± 1.2	4.3 ± 1.3	4.7 ± 0.5	3.8 ± 1.8	4.2 ± 1.4	4.3 ± 1.2	4.0 ± 1.3	4.1 ± 1.2	4.4 ± 1.1	4.1 ± 1.4
Synchronisation	4.1 ± 1.5	4.6 ± 0.6	4.4 ± 1.0	3.6 ± 1.4	4.0 ± 1.5	3.8 ± 1.5	4.05 ± 1.3	4.2 ± 1.1	4.1 ± 1.2	3.84 ± 1.4	4.3 ± 1.2
Sequence of steps	4.2 ± 1.2	4.6 ± 0.8	4.5 ± 0.1	4.1 ± 0.8	4.7 ± 0.6	4.5 ± 0.7	4.6 ± 0.6	4.0 ± 0.9	4.3 ± 0.8	4.3 ± 0.8	4.5 ± 0.8
Direction-scheme –hand holding	4.4 ± 0.9	4.7 ± 0.5	4.6 ± 0.7	4.1 ± 0.7	4.6 ± 0.5	4.4 ± 0.7	4.4 ± 0.7	4.1 ± 0.7	4.2 ± 0.7	4.3 ± 0.7	4.50.64
Body stance and position	4.0 ± 1.0	4.5 ± 0.7	4.3 ± 0.8	3.7 ± 0.9	4.3 ± 0.8	4.1 ± 0.9	3.6 ± 0.9	3.9 ± 0.9	3.8 ± 0.9	3.8 ± 0.9	4.2 ± 0[ζ]
Quality of movement	3.4 ± 1.2	4.5 ± 0.7	4.1 ± 1.0[ε]	2.6 ± 1.1	3.8 ± 1.2	3.3 ± 1.3	2.3 ± 1.4	3.3 ± 1.2	2.9 ± 1.3	2.7 ± 1.3	3.81 ± 1.1[ζ]
Expressiveness	3.3 ± 1.1	4.3 ± 0.8	3.63 ± 1.2[ε]	2.6 ± 1.1	3.7 ± 1.1	3.2 ± 1.2	2.1 ± 1.0	3.0 ± 1.2	2.6 ± 1.2	2.6 ± 1.2	3.6 ± 1.2[ζ]
Overall performance	4.1 ± 1.0	4.6 ± 0.6	4.4 ± 0.8	3.8 ± 0.8	4.3 ± 0.9	4.0 ± 0.8	3.7 ± 0.7	3.9 ± 0.8	3.8 ± 0.7	3.8 ± 0.8	4.2 ± 0.8

α: $p < 0.05$ by the same sex in command style δ: $p < 0.05$ by the total self-check.
β: $p < 0.05$ by the same sex in self-check style ε: $p < 0.05$ by the total command.
γ: $p < 0.05$ by male students in the same teaching style ζ: $p < 0.05$ by male students in the total sample.

Specifically, male students in the self-check style scored significantly higher in dance recognition than male students in the reciprocal ($p = 0.021$) and command ($p = 0.025$) styles. The interaction for each level of the teaching style factor on the above variable was found to be statistically significant for reciprocal ($F_{1,57} = 4.800$, $p = 0.009$, $\eta2 = 0.112$) and command styles ($F_{1,57} = 7.450$, $p = 0.008$, $\eta2 = 0.116$), but not for the self-check style ($F_{1,57} = 0.116$, $p = 0.734$, $\eta2 = 0.002$). More specifically, reciprocal female students scored significantly higher than male students ($p = 0.009$), as did command female students than male students ($p = 0.008$).

Examination of the univariate analyses also revealed a statistically significant main effect of the teaching style on synchronisation ($F_{2,57} = 7.703$, $p = 0.001$, $\eta2 = 0.213$), step sequence ($F_{2,57} = 5.272$, $p = 0.008$, $\eta2 = 0.156$), direction-scheme-hand holding ($F_{2,57} = 13.345$, $p = 0.000$, $\eta2 = 0.319$), body stance and position ($F_{2,57} = 12.799$, $p = 0.000$, $\eta2 = 0.310$), movement quality ($F_{2,57} = 10.305$, $p = 0.000$, $\eta2 = 0.266$), expressiveness ($F_{2,57} = 10.292$, $p = 0.000$, $\eta2 = 0.265$) and overall performance ($F_{2,57} = 8.846$, $p = 0.000$, $\eta2 = 0.237$). More specifically, Bonferroni's multiple comparison test showed that in all of the above variables, the reciprocal and self-check styles were significantly different from the command style. Furthermore, in the variables of movement quality and expressiveness, the reciprocal style also differed significantly from the self-check style (Table 5).

Dance enteka

Two-way (2×3) multivariate analysis of variance (two-way MANOVA) showed that there was no statistically significant multivariate interaction between gender and teaching style (Wilks' Lambda = 0.814, $F_{18.102} = 0.616$, $p = 0.880$, $\eta2 = 0.098$), nor a statistically significant multivariate effect by gender (Wilks' Lambda = 0.760, $F_{9,51} = 1.789$, $p = 0.093$, $\eta2 = 0.240$), nor by teaching style (Wilks' Lambda = 0.635, $F_{18,102} = 1.443$, $p = 0.128$, $\eta2 = 0.203$).

Examination of the univariate analyses revealed that there was no statistically significant interaction between gender and teaching style for any of the variables above, nor was there a main effect due to gender or teaching style (Table 6).

Discussion

The present study investigated the effect of three teaching styles, reciprocal, self-check, and command, on the learning of six traditional Greek dances. Participants who were complete beginners to Greek dance were taught six dances using the three teaching styles mentioned above. Teaching with the reciprocal and self-check teaching styles was conducted for the first time at a research level, as opposed to the command style, which is the most common teaching style.

Regarding the effect of reciprocal and self-check teaching styles on the learning of six Greek dances, it was found that male and female students who were taught these dances for the first time with these two teaching styles scored very high overall in all variables for all dances. These scores were higher than command-style scores and, in several cases, were statistically significant.

Table 5. Means and standard deviations of the three teaching styles (male-female students) on the variables of the Pentozali dance.

Evaluation variables	Reciprocal (Experimental group)			Shelf-Check (Experimental group)			Command (control group)			Total	
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
Dance recognition	$3.8 \pm 1.8^{\beta}$	$5.0 \pm 0.0^{\gamma}$	4.6 ± 1.1	5.0 ± 0.0^{a}	4.9 ± 0.3	4.9 ± 0.2	4.0 ± 1.9	$5.0 \pm 0.0^{\gamma}$	4.6 ± 1.2	4.5 ± 1.3	5.0 ± 0.1
Response to dance rhythm	3.9 ± 1.7	4.8 ± 0.6	4.5 ± 1.1	4.6 ± 0.7	4.3 ± 1.4	4.4 ± 1.3	3.7 ± 1.6	4.5 ± 0.6	4.2 ± 1.1	4.2 ± 1.3	4.5 ± 1.0
Synchronisation	3.7 ± 1.9	4.5 ± 0.9	$4.2 \pm 1.3^{\varepsilon}$	3.2 ± 1.5	4.0 ± 1.3	$3.7 \pm 1.5^{\varepsilon}$	2.4 ± 1.5	2.2 ± 1.6	2.3 ± 1.5	3.1 ± 1.6	3.5 ± 1.6
Sequence of steps	3.5 ± 1.8	4.2 ± 1.3	$4.0 \pm 1.5^{\varepsilon}$	3.2 ± 1.1	3.2 ± 1.2	$3.2 \pm 1.2^{\varepsilon}$	2.7 ± 1.5	2.0 ± 1.5	2.3 ± 1.5	3.1 ± 1.4	3.1 ± 1.6
Direction-Scheme – Hand Holding	3.7 ± 1.7	4.5 ± 0.9	$4.2 \pm 1.2^{\varepsilon}$	3.0 ± 1.0	4.2 ± 1.1	$3.6 \pm 1.2^{\varepsilon}$	2.2 ± 1.2	2.0 ± 1.5	2.0 ± 1.4	2.9 ± 1.3	3.5 ± 1.6
Body stance and position	3.7 ± 1.7	4.4 ± 0.9	$4.2 \pm 1.2^{\varepsilon}$	2.7 ± 1.1	3.8 ± 1.0	$3.2 \pm 1.2^{\varepsilon}$	2.0 ± 1.2	1.9 ± 1.5	2.0 ± 1.3	2.7 ± 1.3	3.3 ± 1.6
Quality of movement	3.4 ± 1.8	4.0 ± 1.2	$3.8 \pm 1.4^{\varepsilon,\delta}$	2.2 ± 1.0	3.0 ± 1.2	$2.6 \pm 1.2^{\varepsilon}$	1.9 ± 1.3	1.6 ± 1.1	1.7 ± 1.2	2.3 ± 1.3	2.8 ± 1.5
Expressiveness	3.4 ± 1.8	3.8 ± 1.2	$3.6 \pm 1.4^{\varepsilon,\delta}$	2.2 ± 1.0	3.1 ± 1.2	$2.7 \pm 1.2^{\varepsilon}$	1.8 ± 1.2	1.6 ± 1.1	1.7 ± 1.1	2.3 ± 1.3	2.8 ± 1.4
Overall performance	3.6 ± 1.6	4.4 ± 0.8	$4.1 \pm 1.1^{\varepsilon}$	3.3 ± 0.8	3.8 ± 1.0	$3.5 \pm 0.9^{\varepsilon}$	2.6 ± 1.1	2.6 ± 1.0	2.6 ± 1.0	3.1 ± 1.1	3.5 ± 1.2

α: $p < 0.05$ by the same sex in command style δ: $p < 0.05$ by the total self-check.
β: $p < 0.05$ by the same sex in self-check style ε: $p < 0.05$ by the total command.
γ: $p < 0.05$ by male students in the same teaching style ζ: $p < 0.05$ by male students in the total sample.

Table 6. Means and standard deviations of the three teaching styles (male-female students) in the variables of the dance 'Enteka'.

Evaluation variables	Reciprocal (Experimental group)			Shelf-Check (Experimental group)			Command (control group)			Total	
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
Dance recognition	4.4 ± 1.5	4.5 ± 1.4	4.4 ± 1.4	5.0 ± 0.0	5.0 ± 0.0	5.0 ± 0.0	5.0 ± 0.0	4.4 ± 1.1	4.5 ± 1.0	4.7 ± 1.0	4.6 ± 1.0
Response to dance rhythm	4.3 ± 1.5	4.3 ± 1.3	4.3 ± 1.4	4.5 ± 0.9	4.3 ± 1.4	4.4 ± 1.2	4.2 ± 1.8	4.4 ± 1.0	4.3 ± 1.2	4.4 ± 1.3	4.3 ± 1.2
Synchronisation	3.5 ± 1.8	3.9 ± 1.6	3.7 ± 1.7	3.0 ± 1.6	3.5 ± 1.9	3.2 ± 1.7	3.5 ± 2.1	2.3 ± 1.7	2.6 ± 1.8	3.3 ± 1.7	3.1 ± 1.8
Sequence of steps	4.3 ± 1.1	3.8 ± 1.7	4.1 ± 1.3	3.9 ± 1.1	4.0 ± 1.4	4.0 ± 1.3	4.3 ± 1.3	3.0 ± 1.6	3.4 ± 1.6	4.2 ± 1.1	3.6 ± 1.6
Direction-scheme- hand holding	3.9 ± 1.1	4.1 ± 1.4	3.9 ± 1.2	3.7 ± 1.1	4.0 ± 1.2	3.9 ± 1.1	3.2 ± 1.3	2.7 ± 1.6	2.9 ± 1.5	3.7 ± 1.1	3.5 ± 1.5
Body stance and position	3.7 ± 1.2	3.9 ± 1.5	3.8 ± 1.2	3.4 ± 1.0	3.8 ± 1.3	3.6 ± 1.2	2.8 ± 1.4	2.5 ± 1.5	2.6 ± 1.5	3.4 ± 1.1	3.3 ± 1.6
Quality of movement	3.0 ± 1.1	3.6 ± 1.4	3.2 ± 1.2	2.5 ± 1.0	3.2 ± 1.3	2.8 ± 1.2	2.4 ± 1.1	2.2 ± 1.4	2.3 ± 1.3	2.7 ± 1.0	2.9 ± 1.5
Expressiveness	2.8 ± 1.1	3.5 ± 1.4	3.1 ± 1.3	2.5 ± 1.1	3.2 ± 1.3	2.8 ± 1.2	2.3 ± 1.6	2.0 ± 1.4	2.1 ± 1.3	2.6 ± 1.1	2.8 ± 1.5
Overall performance	3.8 ± 0.9	4.0 ± 1.4	3.8 ± 1.1	3.6 ± 0.8	3.9 ± 1.1	3.7 ± 1.0	3.5 ± 1.0	2.9 ± 1.3	3.1 ± 1.2	3.6 ± 0.8	3.5 ± 1.3

Analysing the individual variables for each dance, it was found that for synchronisation, step sequence, direction-scheme-hand holding, and body stance and position, which are components of each dance, the scores ranged from very good to almost excellent and were also higher than the scores for the command style. For movement quality and expressiveness, variables that examined the performance style of each dance, the scores ranged from fairly good to very good and were higher than the corresponding scores in the command style. Finally, the values for the overall performance of each dance, an element of learning achievement, were slightly above the very good level and exceeded the moderately acceptable values recorded in the command style. These results are consistent with other previous research reporting that skill performance improves in students of different ages when practising under reciprocal-style conditions (Ernst and Byra 1998; Goldberger and Gerney 1986, 1990; Mosston and Ashworth 2002).

Reciprocal teaching involves the formation of pairs and the taking on of roles to achieve the intended outcomes. In this study, pairing was the sole decision of pairs of students and was based on their friendship with each other rather than their level of ability. According to Byra and Marks (1993) and Ernst and Byra (1998), feedback from friends is considered more accurate and is perceived as more helpful by the practitioner. It seems that in the present study helping each other through observation and giving and receiving feedback from friendly and more familiar people had a more effective effect on learning by informing trainees about how to perform the exercises, strengths, and weaknesses they needed to improve. The same is supported by a study (Digelidis et al. 2018) where the improvement and maintenance of motor skills is considered to be the result of the 'participatory observation' and mutual assistance that occurs when using the reciprocal style. Researchers argue that mutual assistance and observation in the reciprocal teaching method and self-observation in the self-check method are particularly conducive to understanding the technique. Additionally, the ability to observe movement, which is a key learning parameter and a life skill, is enhanced when using the two styles mentioned above. Students observe, compare their performance, draw conclusions, and provide feedback.

The values used to determine the level of learning from teaching in the self-check style were at the same level. On the variables relating to the components of each dance, scores ranged from very good to almost excellent, were almost like those of the reciprocal style, and slightly higher than those of the command style. For the variables that examined the performance style of each dance, the scores ranged from moderately acceptable to fairly good, were slightly lower than the reciprocal scores and higher than the command style scores. The overall performance of the dances by the students taught in self-check style was very good and quite a bit better than the overall performance scores in the command style. According to Papaioannou et al. (2012), self-observation is a process of the self-regulation system, which is activated by the self-check style. By using the criteria sheets, the students were asked to observe themselves, analyse the way they performed the dance movements, and decide on their correctness. By giving themselves feedback, they adjusted their actions by setting new goals or redefining existing ones to improve their performance.

In general, the two teaching styles used to learn Greek dances did not differ in their effectiveness. This finding is consistent with a similar finding by Kolovelonis, Goudas and Gerodimos (2011) in their investigation of the effectiveness of reciprocal and self-check styles in learning. In both styles, students were involved in the process of observing

and evaluating performance, but also in giving and receiving feedback to their peers or to themselves, elements considered important in learning. Furthermore, in the reciprocal style, learning is also achieved through teaching to the pair, whereas in the self-check style, learning is achieved through goal setting and self-observation. The above evidence supports the view of Mosston and Ashworth (2002), included in the study of Kolovelonis et al. (2011), that the selection of an appropriate style should be careful and based on the learning environment, the students' level of motor development, the level of motor skill learning, and the students' ability to adapt to the demands of the lesson.

Teaching dances in the command style resulted in learning levels that, as noted above, were lower than the other two styles that included elements of learner-centred methods. Regarding the variables of the components of each dance, the first four dances of the assembled sequence (Xassapia, Zonaradiko, Tsamiko and Tik Double) showed moderate to very good levels of learning, and the Pentozali and Enteka dances showed marginal to moderately acceptable levels. These two dances have a higher level of difficulty than the previous four, which may have had a greater impact on the performance score, especially for the Pentozali and less so for the Enteka. The typological combination of the kinetic motives of the 'sta duo' dance with the third and fourth kinetic motives of the 'sta tria' dance (Tyrovola, Koutsoumpa, and Tabaki 2008), which make up the kinetic form of the Pentozali, combined with its fast rhythmic treatment, increased the degree of difficulty of the dance and may have made it more difficult for practitioners to imitate the teacher to perform the dance. Accordingly, the complex rhythmic plot, the dance scheme (individual dance with active participation of the hands combined with foot movements) and the direction of the dance (alternating left and right directions in a circular orbit) were the possible reasons that made it difficult for the practitioners to perform the Enteka dance. The level of values in the variables of movement quality and expressiveness ranged from borderline to moderately acceptable, while the overall performance values of the six dances studied were mostly rated at a moderately acceptable level. Except for the dances Xassapia and Tik Double, whose scores ranged from fair to very good.

Variables of quality of movement and expressiveness were also used to examine the performance style of dances. In the present study, quality of movement was defined as the ability to perform the dance with emphasis on its qualitative-dynamic elements (weight, time, space, flow of movement) and expressiveness as the ability to transfer movement from the lower limbs to other parts of the body (head, shoulders, torso, arms). The evaluation of the results showed that the values obtained for the whole sample were quite good to very good for reciprocal, moderately acceptable to quite good for self-check, and slightly to moderately acceptable for command style. The above two variables-skills, which are considered to reflect the style-technique of each dance, are mainly cultivated after the initiation stage, the first stage of dance training, but are taught in less detail from the beginning. In the present study, the students were in the initial stage. However, an attempt was made to develop the above skills in all three styles. It seems that their moderate rating is due to the very little time (only one class) devoted to learning each dance. However, the fairly good to very good level of reciprocal scores seems to have been influenced by the positive effect of mutual assistance in understanding the technical elements mentioned above. This finding is in line with a similar finding from a previous study on the effect of reciprocal on the learning and retention of basketball movement skills (Digelidis et al. 2018).

An element that also emerged from the analysis of the results was that female students scored higher than male students on almost all variables for all dances, regardless of the teaching style. The exception was the Enteka dance, where male students scored higher than female students in all variables except for quality of movement and expressiveness. The same result was observed for the same dance in the command style. Male students' scores were in the moderately acceptable to very good range, unlike female students, whose scores were in the marginal to moderately acceptable range.

The use of more student-centred methods in teaching traditional dance is admittedly not a common practise. Many dance teachers limit themselves to demonstrating the dance movements and being a model of imitation for their students. This form of teacher-student interaction creates stereotypes about the 'authenticity' of the 'model teacher' and deprives the student of the opportunity to create his or her own personal style. Greek traditional dance, by its very nature, is identified with the concepts of creativity, improvisation, collectivity, continuous transformation, and is an educational asset for all levels of education. Therefore, it offers the possibility of approaching it with more student-centred educational processes, where the student is given the freedom and autonomy to make decisions for himself or herself during the lesson (Mosston and Ashworth 2002). Furthermore, the fact that students learn in different ways, have different levels of intelligence, come from different cultural backgrounds and enter the educational process with different levels of kinetic experience dictates the use of different methodologies, teaching styles, to meet different kinetic, cognitive, and learning needs (Mosston and Ashworth 2002).

The main conclusion of the present study is that the learning of Greek dances can be achieved to a very acceptable level using both the reciprocal and self-check styles and that the two styles do not differ significantly in terms of learning, despite the higher scores obtained with the reciprocal style on variables of some of the dances. The Reciprocal style significantly outperformed the Command style on almost all variables in most dances, while the Self-Check style outperformed the Command style on a smaller number of dances than the Reciprocal style. Female students in reciprocal and self-check styles performed the dances significantly better than male students in their groups.

The novelty of the present study lies in the fact that, for the first time, two more indirect learning-centred teaching styles (reciprocal and self-check) were experimentally applied to the purpose of learning Greek dances and proved to be largely effective. Moreover, the aim was not to prove that the two alternative methods mentioned above were more appropriate and effective than the usual practice (command style), but to explore more ways – methods - to achieve the goals of each dance course. The use of many different methods adds variety to the class, making it more interesting and attractive to students by improving them cognitively and socio-emotionally, and satisfying their many different learning preferences. It is also appreciated that the use of the reciprocal and self-check style provides dance teachers with a range of alternative ways to teach each dance more effectively. It enables them to move beyond their personal idiosyncratic teaching style, resulting in a more refreshing and challenging teaching experience and more effective students. However, a prerequisite for this is that dance teachers have a satisfactory knowledge of the application of teaching methods.

Disclosure statement

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