The effect of an interdisciplinary Greek traditional dance programme on Middle School students' goal orientation and anxiety

Authors' contribution:

- A) conception and design of the study
- B) acquisition of data
- C) analysis and interpretation of data
- D) manuscript preparation
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ABSTRACT

The aim of the study was to investigate the effect of an interdisciplinary program of Greek folk dance, with topics from history and geography on Middle School students' goal orientation and anxiety level. The sample consisted of 260 students (134 boys & 126 girls). The experimental group (n=144) followed the interdisciplinary four-week program (two lessons per week) while the control group (n=126) followed the corresponding typical physical education program. For the data collection, the questionnaire used was the "Goal orientation" by Papaioannou, Milosis, Kosmidou, and Tsigilis (2002) and the Greek version (Kakkos & Zervas, 1996) of "Competitive State Anxiety Inventory-2" (Martens et al., 1990). The students filled in the questionnaires before and after their participating in each program. Descriptive statistics, reliability analysis, and Repeated Measures ANOVA were used. Results showed that a. Cronbach's alpha was satisfactory. b. The experimental group decreased significantly the levels of "ego- strengthening" and "ego-protection", and on the contrary significantly increase the "personal development", and "social acceptance". c. Experimental group's boys and girls decreased their "ego- strengthening" and "ego-protection", and enhanced their "personal development" and "social acceptance" more than their control group peers. d. The experimental group decreased the levels of somatic and cognitive anxieties and increased significantly their self-confidence. e. male students increased their self-confidence more than female students. These findings support the view that an interdisciplinary program of traditional Greek dance with issues from history and geography enable us to reduce the rates of ego-strengthening, ego-protection, somatic and cognitive anxiety while simultaneously increases students' personal development, social acceptance, and self-confidence

KEYWORDS

Interdisciplinarity approach, secondary students, Physical Education classes

Introduction

One of the subjects included in the educational systems of most countries is dance. Dance holds this position as it affects the social, emotional, and intellectual development of a person. Despite its significant impact, though, dance has taken far too long to evolve as a separate scientific field. This delay is attributed, on the one hand, to the ephemeral nature of the dance performance and its complexity and, as well, an ongoing controversy as to whether dance is art or science. This argument has also slowed the development of its teaching with the existence of two views on the issue of whether dance is art or science. The kind of dance considered is an additional factor that increases this fundamental controversy. More specifically, when it comes to folk dance, the argument deepens, given the introduction of another parameter: the expression of the culture of a people through dance (Bourdieu, 1994).

Discussions on the nature of dance, and particularly of folk dance, have resulted in the formation of two approaches regarding its instruction. The first of them isolates dance from its natural surroundings, i.e. the various occasions for the activity itself, be it a religious celebration or social event; it also considers dance as a solely kinetic creation of high complexity and organization, demanding technique and highly accurate performance. Supporters of this view take for granted the adoption of a teacher-centered instruction, as they believe that, only with this method, can high accuracy in the execution of movement and technique be achieved (Serbezis, 1999).

The second teaching approach looks upon folk dance as an element of culture and, as a result, as a social practice consisting of controlled and culturally-dictated body movements belonging to specific spatiotemporal contexts. In fact, this view considers the interdisciplinary approach to teaching folk dance as the most suitable pedagogical method since, through it, folk dance is dealt with as a whole, i.e. not only as a cultural product but also as a kinetic skill. Additionally, it enables the teacher to use a broad range of tunes and songs for each dance, promoting the development of the musical skills of students as well (Papaioannidou, Derri, & Filippou, 2015; Pitsi, Diggelidis, & Filippou, 2013; Stivaktaki, Mountakis, & Bournelli, 2010).

The interdisciplinary approach has risen in the modern curriculum as an important and challenging technique. Specifically, Bammer (2010, 2013) suggests that this field, which calls 'integration and implementation', has become increasingly important in recent years. This field includes most of the terms and the issues normally grouped under the heading of interdisciplinary education; synthesizing more than one discipline and creating groups of teachers and students that enrich the overall educational experience. The integrated approach in teaching differentiated from the traditional way of teaching as for the content but also as for the methods (Kaittani, Derri, & Kioumourtoglou, 2016).

The last years aiming at the reform of quality of education, integration approach or interdisciplinary, constituted the central axis in the syntax of the curriculum from the Pedagogic Institute in Greece. The cross-thematic integration refers to the integration of two or more subject areas with the goal of fostering enhanced learning in each area. It is supported that the integrated approach in teaching leads to holistic and real knowledge, which connects with the reality, turn to advantage in the daily life (Ivanitskaya, Clark, Montgomery, & Primeau, 2002).

Research studies, although few, attempted to integrate physical education classes with various curriculum subjects and to examine the effects of such programs. Derri, Aggelousis and Petraki (2004) showed the effectiveness of a health-related fitness and nutrition education program on elementary students' fitness components and dietary habits. Similar were the results in the study conducted by Zervou, Derri and Paterakis (2004). They found that fourth grade students who were taught topics related to the ancient Olympic Games, through an interdisciplinary movement approach they both acquired and maintained good knowledge compared to their classmates, who were taught the same subject but in a theoretical framework in the classroom. Milosis and Papaioannou (2005) unified themes from the Greek language and physical education in a six-month project. Their aim was to investigate the impact of the project on various aspects such as how students approached their objectives, how strong their motivation was, the satisfaction received from the different classes and the feeling

that they succeeded in coping with difficult tasks. In addition, self-concept, personal and social responsibility and academic achievement were some more of the project's aspects that were investigated. The survey findings revealed positive effects on all the studied aspects. Similarly, the positive impact of an interdisciplinary physical education and Greek language program on language learning of preschool students was found in the study by Derri, Kourtessis, Goti-Douma, and Kyrgiridis (2010). According to researchers, interdisciplinary teaching offers more appealing classes for students (Cone, Werner, Cone, & Woods, 1998); motivation for active participation thereby increases, as emphasis is placed on the value of effort, learning, and personal development as opposed to mere rewards (Ames, 1992; Duda, 1996). The existence of goals on the part of students is an essential condition for them to remain motivated.

Scientific studies in physical education classes have shown that motivation affects students' engagement and their behaviors (Chen, 2001). Specifically, the achievement goals perspective (Ames, 1984; 1992a; 1992b; Nicholls, 1984; Ntoumanis, & Biddle, 1999) has been shown to be one of the theoretical models that have contributed to the understanding of cognitive, emotional and behavioral patterns relevant to a student's achievement in physical education classes (Duda, 1996, 2001; Papaioannou, 1995; 1998b; Treasure, & Roberts, 2001; Xiang, & Lee, 2002). In Greece various researches (Digelidis, & Papaioannou, 1999; Papaioannou, 1997) indicated that children in elementary school appear to be more task orientated in PE classes and as they grow and move from elementary to secondary and senior high school, they lose their motivation, become more ego-orientated and as a result they feel less competent and do not participate in classes. Diggelidis and Papaioannou (2004) confirmed that the students of their research, aged 10 to 17, enjoyed less during the PE lessons and supported that there may be considerable deficiencies in the current PE school programs, which should be more attractive and interesting, proposing new challenging skills.

The demanding school curriculum (Filippou, Rokka, & Mavridis, 2016), excessive school homework, the effort to achieve a high school performance along with insecurity for the future constitute the main sources of stress that students experience (Israelowitz, & Hong, 1990). Stressful situations which students experience in the school environment may possibly causes of bodily symptoms. Insomnia, stomach aches and feelings of sickness (Witkin, 1999) as well as concentration problems and incapacity to study at home (Lohaous, Klein-Hebling, & Shebar, 1997) are some of the distractions caused by stress. Those stressful situations must definitely be tackled, as this is the only way for students to improve their abilities in the maximum, to gain self-confidence and belief in themselves (Nestoros & Vallianatou, 1996), which will help them have a successful presence at school and in their everyday life (Woodman & Hardy, 2003; Beattie, Hardy, & Woodman, 2004).

Higher levels of stress are observed during the transition from primary to secondary education. Most often, students report feelings of uncertainty and dissatisfaction with the complex curriculum, the many hours of teaching, the different teachers they teach, the complex grading system, and the amount of work (Murberg, & Bru, 2007; Torsheim, & Wold, 2001). Hampel and Petermann (2005) reported that teenage students experience stress feelings caused by the school environment, arguments with family members (parents, siblings) and schoolmates. The research conclusions of Kraag, Zeegers, Kok, Hosman and Abu-Saad (2006) are similar. According to them, the intense school demands for top performance and the disagreements and arguments between students cause stress to the students. The way in which students deal with the various stress factors, which are related to the school environment, might affect their future attitude to various problems (Murberg, & Bru, 2007). The report of Witkin (1999) is characteristic. In it the physical reactions of students to stress were recorded, for example insomnia, stomachaches and feelings of sickness; likewise Lohaous, Klein-Hebling and Shebar (1997), stated various reactions in the behavior of students, like feelings of anger and anxiety along with concentration problems affecting afternoon studying at home.

Nevertheless, there is a lack of bibliography focusing on an interdisciplinary approach to the Greek traditional dance, with thematic choices from history and geography and also investigating the decrease of anxiety taken by students who participate in the lesson.

From what has been previously said, results show the importance of study mainly on the reduction of students' anxiety levels through the educational process and secondly, on the lack of past research on the topic of examination of an interdisciplinary curriculum program based on Greek traditional dancing. So, the purpose of this study was to investigate the effect of an interdisciplinary program of Greek folk dance, with items from history and geography on 8th grade middle school students' goal orientation and anxiety levels during class.

Methodology

Participants

The sample consisted of 260 students in the 8th grade of middle school. The students were divided into two groups, one of which was the experimental group (interdisciplinary approach to folk dance); the second was the control group (conventional approach to teaching). Students' classification in both groups was carried out by lot. The experimental group comprised 144 students, 76 boys and 68 girls, and the control group consisted of 116 students, 58 boys and 58 girls.

Intervention programme

Before the beginning of the intervention program, both the experimental and control group students took part in a test exploring their knowledge of Greek folk dances. Three hundred forty-five male and female students took this test, 260 of whom finally participated in the research (since they had not taken Greek folk dance lessons in any dancing associations).

Table 1. Experimental group interdisciplinary programme

Lesson	Dance – Subject	Aim	Instruments
1 st	Koftos- Geography	Learning of dancing kinetic form – what prefecture?	cd player, Cards with the prefectures of Greece.
2 nd	Kotsari - History	Learning of dancing kinetic form. The Empire of Trebizond. The uprooting of Pontians.	cd player , Map of Pontus.
3 rd	Enteka - History	Learning of dancing kinetic form. Macedonia to Ottoman rule. Living conditions.	cd player, Wordsearch.
4 th	Baidouska- Geography	Learning of dancing kinetic form. The concept of geographical apartment. Geographical borders.	cd player, Puzzle: geographical apartment.
5 th	Karagouna– Geography	Learning of dancing kinetic form. Prefecture's capital.	cd player, Political map of Greece.
6 th	Kalamatianos– History	Learning of dancing kinetic form. War of Greek Independence in the Peloponnese.	cd player, Banners of the War of Greek Independence. Battle hymn of Riga.
7 th	Tsamikos- History	Learning of dancing kinetic form. Kleftes (rebel soldiers) and Armatoles.	cd player, The costume of Kleftes (rebel soldiers) and Armatoles- Fustanella
8 th	Hasapia–History	Learning of dancing kinetic form. The Asia Minor Catastrophe.	cd player, Collecting information from the elderly.

Source: own study.

The intervention programme lasted four weeks, with two teaching sessions per week. Eight in total interdisciplinary classes of Greek folk dances, exploiting material from history and geography, were attended by the experimental group (Table 1); eight conventional classes of Greek folk dance, as outlined by the curriculum of the Ministry of Education, were attended by the control group (Table 2).

The classes were held during the Physical Education class, which lasted 45 minutes. Both the experimental and the control groups attended classes with the same educational goals within these four weeks. Both groups were taught by the same teachers. All students were pre- and post-tested (before the first and after the eighth lesson, respectively).

Table 2. Control group programme

Lesson	Dance	Aim	Instruments
1 st	Koftos	Learning of dancing kinetic form	cd player
2 nd	Kotsari	Learning of dancing kinetic form	cd player
3 rd	Enteka	Learning of dancing kinetic form	cd player
4 th	Baidouska	Learning of dancing kinetic form	cd player
5 th	Karagouna	Learning of dancing kinetic form	cd player
6 th	Kalamatianos	Learning of dancing kinetic form	cd player
7 th	Tsamikos	Learning of dancing kinetic form	cd player
8 th	Hasapia	Learning of dancing kinetic form	cd player

Source: own study.

Measurements

To explore students' aims during class, the Goal Orientation (Papaioannou, Milosis, Kosmidou, & Tsigilis, 2002) questionnaire was used. This instrument included 29 items starting with the basic statement: 'In today's Greek Folk Dance lesson....' and continuing with the following aspects:

- personal development* (7 questions, e.g. 'as difficult as it was, I enjoyed learning new things');
- social acceptance* (7 questions, e.g. 'I wanted to give a good performance in order for everyone to like me');
- ego strengthening* (9 questions, e.g. my goal was to surpass others in dancing skills'); and
- ego protection* 6 questions, e.g. 'I was often afraid that I might seem hopeless while I was trying to put into practice a dancing skill').

To evaluate students' anxiety levels during class time, the Competitive State Anxiety Inventory (Martens, Burton, Vealey, Bump, & Smith, 1990), modified for the Greek population by Kakkos and Zervas (1996), was used. The scale consists of 15 items divided into three factors:

- somatic anxiety*, with five items (e.g. 'I feel tense in the stomach');
- cognitive anxiety* with five items (e.g. 'I'm concerned about reaching my goal'); and
- self-confidence* (e.g. 'I'm confident that I can pull through under pressure').

Responses were given on a 5-point Likert-type scale for both questionnaires, ranging from 1= totally disagree to 5= totally agree. The initial and final evaluations of the elements related to goal orientation and perceptions of students of the anxiety levels in class were carried out as experience within the school environment. The questionnaire was anonymous and filled in during the first (initial measurement) and fifth (final measurement) week in class.

Statistical Analysis

The following statistical analyses were carried out: Confirmatory factor analysis, Reliability analysis, T-test for independent sample and Repeated Measures ANOVA in order to determine any possible differences within and between the experimental and the control group. The level of statistical significance was set at $p < .01$.

Results

Confirmatory factor analysis for the “Goal Orientation Questionnaire”

A confirmatory factor analysis was performed on the 29 subscales of the “Goal Orientation Questionnaire”. The method of estimating parameters is that of maximum likelihood (Hu, & Bentler, 1995). The hypothesized model consists of four latent variables, namely “personal development”, “social acceptance”, “ego- strengthening” and “ego protection”. The fit indices which were considered and their acceptable values are: namely minimum discrepancy (CMIN or χ^2), degrees of freedom (D.F.), minimum discrepancy divided by the degrees of freedom ($\chi^2/d.f.$) < 5 , Root Mean Square Error of Approximation (RMSEA) $< .08$, Standardized Root Mean Square Residual (SRMR) $< .05$, and incremental indices Comparative Fit Index (CFI) $> .90$, Normed Fit Index (NFI) (Bentler, 1990; McDonald & Marsh, 1990; Mulaik et al., 1989).

Table 3 . Model Fit Indices

	N	X ²	DF	X ² /DF	NFI	CFI	RMSEA	SRMR
Model	260	1472.87	371	3.97	.91	.90	.046	.028

Source: own study.

The results of the confirmatory factor analysis demonstrated that the hypothesized model produced a significant chi-square (1472.87), and χ^2/df ($1472.87/371$) = 3.97, $p < .001$. The NFI and CFI were found to be .91 and .90 respectively. The RMSEA was also considered to assess the degree of fit of the model. The RMSEA value for the hypothesized model was found to be .046 and SRMR = .028 (Table 3).

Confirmatory factor analysis for the “Competitive State Anxiety Inventory-2”

A confirmatory factor analysis was performed on the 15 subscales of the “Competitive State Anxiety Inventory-2”. The method of estimating parameters is that of maximum likelihood (Hu, & Bentler, 1995). The hypothesized model consists of three latent variables, namely “somatic anxiety”, “cognitive anxiety”, and “self-confidence”.

The fit indices which were considered and their acceptable values are: namely minimum discrepancy (CMIN or χ^2), degrees of freedom (D.F.), minimum discrepancy divided by the degrees of freedom ($\chi^2/d.f.$) < 5 , Root Mean Square Error of Approximation (RMSEA) $< .08$, Standardized Root Mean Square Residual (SRMR) $< .05$, and incremental indices Comparative Fit Index (CFI) $> .90$, Normed Fit Index (NFI) (Bentler, 1990; McDonald & Marsh, 1990; Mulaik et al., 1989).

Table 4. Model Fit Indices

	N	X ²	DF	X ² /DF	NFI	CFI	RMSEA	SRMR
Model	260	348.87	87	4.01	.90	.92	.038	.031

Source: own study.

The results of the confirmatory factor analysis demonstrated that the hypothesized model produced a significant chi-square (348.87), and χ^2/df (348.87/87)=4.01, $p<.001$. The NFI and CFI were found to be .90 and .92 respectively. The RMSEA was also considered to assess the degree of fit of the model. The RMSEA value for the hypothesized model was found to be .038 and SRMR=.031 (Table 4).

Reliability analysis

The 'Cronbach alpha' internal cohesion indicator of the two questionnaires was satisfactory. The values concerning all factors for pre- and post- test measurements were: *Ego-strengthening*: .78 and .83, *Ego protection*: .83 and .93; *Social acceptance*: .88 and .84; *Personal development*: .85 and .85; *Cognitive anxiety*: .97 and .87; *Somatic anxiety*: .97 and .94; and finally, *Self-confidence*: .87 and .89, respectively (Table 5).

Table 5. Reliability analysis of the factors for initial and final measurements

Factors	Pre Test	Post Test
Goal Orientation		
Ego-strengthening	.78	.83
Ego protection	.83	.93
Social acceptance	.88	.84
Personal development	.85	.85
Anxiety		
Cognitive anxiety	.97	.87
Somatic anxiety	.97	.94
Self-confidence	.87	.89

Source: own study.

At first, the independent t-test analysis was applied to check whether there were any statistically-significant differences in the questionnaire factors between the experimental and control group at the initial measurement. From the results, it appeared that any differences in all factors were not statistically significant. Therefore, the members of the two groups were considered to be characterised by the same level to the factors which were studied before commencement of the programme (Table 6).

Table 6. Control of statistically-significant differences between the experimental and control team at the initial measurement

Factors	Experimental	Control	t	df	p
1. Ego-strengthening	4.21	4.20	.253	258	>.05
2. Ego protection	4.34	4.32	.517	258	>.05
3. Social acceptance	1.47	1.48	.099	258	>.05
4. Personal development	1.46	1.46	-.073	258	>.05
5. Cognitive anxiety	4.28	4.27	.039	258	>.05
6. Somatic anxiety	4.31	4.32	-.079	258	>.05
7. Self confidence	1.62	1.63	-.335	258	>.05

Source: own study.

Repeated Measures ANOVA

The repeated measures ANOVA was then applied for each factor of the Goal Orientation questionnaire. The analysis model included 'measurement' (initial - final) as the repetition variable and 'group' (experimental - control) as the independent variable. The results showed that there was a statistically-significant interaction between the variables 'measurement' and 'group' for 'ego strengthening' [$F_{(1,258)}=3053.34$, $p<.001$], 'ego-

protection' [$F_{(1,258)}=3003.67, p<.001$], 'social acceptance' [$F_{(1,258)}=1737.91, p<.001$] and 'personal-development' [$F_{(1,258)}=2644.14, p<.001$]. The interaction analysis, with the use of the multiple comparison test (post hoc Bonferroni), showed that the experimental group had a statistically-significant improvement in grades after the end of the intervention programme, while the control group remained stable (Table 7). More specifically, there was a statistically-important decrease of 'ego strengthening' and 'ego protection' in the experimental group and a parallel statistically-significant increase of 'social acceptance' and 'personal development'.

Finally, the repeated measures ANOVA analysis was applied for the 'cognitive anxiety', 'somatic anxiety', and 'self-confidence' factors. The analysis model included the variable 'measurement' (initial - final) as the repetition variable and the variable 'group' (experimental - control) as the independent variable. The findings revealed that there was a statistically-significant interaction between measurement and group for the 'cognitive anxiety' [$F_{(1,258)}=1706.37, p<.001$], 'somatic anxiety' [$F_{(1,258)}=1274.47, p<.001$], and 'self-confidence' [$F_{(1,258)}=1665.15, p<.001$] factors. The post hoc Bonferroni test indicated that the experimental group had a statistically-important decrease of cognitive and somatic anxiety levels and a parallel statistically-significant increase of self confidence after the end of the intervention programme. On the contrary, the control group remained constant (Table 7).

Table 7. Means (M) and Standard Deviation (SD) of the experimental and control team at the initial and final measurement for analysed factors

Factors	Group	Initial		Final		Measurement/Interaction
		M	SD	M	SD	
Ego-strengthening	Experimental	4.21	.37	1.53	.40	$F_{(1,258)}=3053.34, p<.001$
	Control	4.19	.34	4.18	.33	
Ego protection	Experimental	4.34	.39	1.49	.50	$F_{(1,258)}=3003.67, p<.001$
	Control	4.32	.33	4.32	.32	
Social acceptance	Experimental	1.47	.39	4.39	.39	$F_{(1,258)}=1737.91, p<.001$
	Control	1.48	.44	1.47	.31	
Personal development	Experimental	1.46	.37	4.25	.46	$F_{(1,258)}=2644.14, p<.001$
	Control	1.46	.31	1.46	.32	
Cognitive anxiety	Experimental	4.28	.52	1.74	.48	$F_{(1,258)}=1706.37, p<.001$
	Control	4.27	.42	4.25	.42	
Somatic anxiety	Experimental	4.31	.61	1.90	.35	$F_{(1,258)}=1274.47, p<.001$
	Control	4.32	.62	4.31	.62	
Self confidence	Experimental	1.62	.36	4.08	.51	$F_{(1,258)}=1665.15, p<.001$
	Control	1.63	.29	1.61	.30	

Source: own study.

Correlation analysis

Pearson correlation analyses were conducted to assess the relationship between the amount of student (experimental group) ego-strengthening, ego-protection, social acceptance and personal-development with cognitive, somatic anxiety and self-confidence. Results indicated that there was a strong positive correlation between: a) cognitive anxiety and ego strengthening ($r=.897$, $p<.01$); ego protection ($r=.908$, $p<.01$); b) somatic anxiety and ego strengthening ($r=.891$, $p<.01$); and ego protection ($r=.874$, $p<.01$); c) self confidence and social acceptance ($r=.929$, $p<.01$) and personaldevelopment ($r=.920$, $p<.01$). Additionally, there was a strong negative correlation between: a) cognitive anxiety and social acceptance ($r=-.915$, $p<.01$) and personal development ($r=-.897$, $p<.01$); b) somatic anxiety and social acceptance ($r=-.913$, $p<.01$) and personal development ($r=-.899$, $p<.01$); c) self confidence and ego strengthening ($r=-.922$, $p<.01$) and ego protection ($r=-.924$, $p<.01$). The increase in self confidence correlated to the increase in social acceptance and personal development and to the decrease in ego strengthening and ego protection. Additionally, the decrease in cognitive anxiety and somatic anxiety correlated positively to the decrease in ego strengthening and ego protection and to the increase in social acceptance and personal development (Table 8).

Table 8. Pearson correlations analysis among factors of the two questionnaires

Factors	Cognitive anxiety	Somatic anxiety	Self- confidence
Ego – strengthening			
Pearson Correlation	.897**	.891**	-.922**
Sign. (2-tailed)	.001	.001	.001
N	260	260	260
Ego-protection			
Pearson Correlation	.908**	.874**	-.924**
Sign. (2-tailed)	.001	.001	.001
N	260	260	260
Social acceptance			
Pearson Correlation	-.915**	-.913**	.929**
Sign. (2-tailed)	.001	.001	.001
N	260	260	260
Personal development			
Pearson Correlation	-.897**	-.899**	.920**
Sign (2-tailed)	.001	.001	.001
N	260	260	260

Note: ** Correlation is significant at the 0.01 level (2-tailed).

Source: own study.

Discussion

The aim of this study was to explore the effect of an interdisciplinary program of Greek folk dance with items from history and geography on 8th grade middle school students' goal orientation and anxiety levels during class. The results showed significant differences regarding the students of the experimental group in relation to those of the control group. Particularly, as far as the factors “ego-strengthening” and “ego-protection” are concerned, a decrease in the levels of the experimental group was recorded from initial to final measurement. In contrast, in the students of the control group there were no significant differences even though their percentages decreased. Regarding the variables “personal development” and “social acceptance”, the students of the experimental group increased their percentages considerably between measurements. On the contrary, no significant differences in the attitudes of the control group students were recorded although they improved their percentages too.

From all the above we can legitimately claim that Greek folk dance constitutes a kinetic activity through which the teacher has the chance to implement teaching approaches, like interdisciplinary teaching, which will not only reduce the students orientation towards their ego but which will, additionally, make them turn to hard work.

The interdisciplinary approach makes the class more appealing to students (Cone, Werner, Cone & Wood, 1998), maintaining or even reinforcing their motivation into active learning, emphasizing the value of effort, learning and personal improvement. Gotzaridis, Papaioannou, Antoniou, and Albanidis (2007), in a study on the effects of an interdisciplinary program of Physical Education and Physics, found an increase in interest and intrinsic motivation as well as participation levels of the so called “indifferent” students in class.

The positive consequences of the program were obvious in this case as well, since the experimental group students moved on to a differentiation of their goals and, as a result, to a change of attitude, by significantly decreasing their percentages in the factors “ego- protection” and “ego- strengthening” and by raising their levels in the “social acceptance” and “personal development” factors.

Regarding the anxiety, the students experienced during class, from the results of the research, we observed a significant decrease in somatic and cognitive anxiety between measurements. In contrast, the control group members, though they exhibited a decrease in their percentages, this was not statistically significant. Additionally, from the results of the research we observed a notable increase in the self-confidence of the experimental group students in contrast to the control group, whose members did not show a statistically significant change in their percentages. The results of scientific studies revealed that the combination of physical education lessons with any other item no matter the different academic level had very good results on the progression of the students. Filippou, Bebetos, Vernadakis, Zetou and Derri (2014) investigated the effect of an interdisciplinary program of Greek traditional dance with issues from music and sociology, on high school students’ anxiety levels. Results revealed a significant reduction of both the somatic and cognitive anxiety but also an important increase in self-confidence of the experimental group. The results of the present study come into contrast with the results of Kaprinis, Diggelidis and Papaioannou (2009), in which the students of the experimental group showed increased percentages of somatic and cognitive anxiety. Probably, this differentiation is due the content of the interdisciplinary approach which in this investigation was consisted of history and geography issues, while in the research of Kaprinis et al. (2009) came from mathematics. However, Kaprinis et al. (2009) verified what Usnick, Johnson and White (2003) had also found; the positive impact of the program on the development of mathematical skills, internal motivation and satisfaction of the students. Similar positive learning outcomes were reported by Tsapatori, Pollatou, Gerodimos and Mavromatis (2009) who applied a music-movement program on first grade students. Moreover, dance classes in Physical Education curricula constitutes an activity which contributes to the socialization process of a person (Rokka, Mavridis, Mavridou, Kelepouris & Filippou, 2015), as well as to escaping boredom and monotony (Mavridou, 2012).

Conclusions

The above results confirm that an interdisciplinary program of Greek folk dance drawing material from History and Geography reduces the rates of cognitive and somatic anxiety while it simultaneously boosts students’ self-confidence. It is evident that interdisciplinary teaching helps to advance critical thinking and cognitive development, engaging students and helping them to develop knowledge, and problem solving skills, self-confidence, self-efficacy and passion for learning. Most of researches were conducted in primary and preschool pupils, less in secondary education and even least in higher education. All studies showed how interdisciplinary programs had a positive impact on improving different skills (language, mathematical, movement) of students. Regarding with physical education classes, especially in secondary education, it is evident that more research needs to be done; we need to think more deeply about the benefits of an interdisciplinary programs, the extent of integration required and how this integration will be achieved.

Limitations

The results of the research apply exclusively to students on 8th grade Middle School of a certain geographical and cultural environment. To confirm the results more research should be conducted on a larger sample of various ages or levels of education and of other geographical and cultural environments. Finally, future research could examine similar teaching approaches drawing on material from various fields, such as music, sociology, mathematics or traditional-local cuisine.

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Received: 6 January 2020; Accepted: 26 May 2020