Interdisciplinary Greek Traditional Dance Course: Impact on Student Satisfaction and Anxiety


The aim of this study was to investigate the effect of an interdisciplinary program of Greek folk dance music and sociology on 8th grade Middle school student satisfaction and anxiety level. To evaluate students' anxiety and satisfaction the Competitive State Anxiety Inventory-2 and Duda and Nicholls' Satisfaction questionnaire were used respectively. The reliability analysis showed that indicators of internal cohesion of subscales in both instruments were at satisfactory levels. The results showed that the experimental group enhanced significantly the levels of satisfaction, and self-confidence and decreased significantly the levels of somatic and cognitive anxiety. The satisfaction of students was positively related to self-confidence and negatively related to cognitive anxiety. The improvement observed in the experimental group concerned both boys and girls. In conclusion, we can say that an interdisciplinary program of traditional Greek dance reduces the rates of somatic and cognitive anxiety while simultaneously increasing students' satisfaction and self-confidence.

Keywords: teaching methods, anxiety, self-confidence, dance, gender differences
INTRODUCTION

Dance, of any form, is included in the curriculums of almost all countries since the benefits ensuing from one’s participation in organized dance activities have been proven. As a part of Physical Education, dance can positively contribute to the achievement of the general aim of Physical Education and according to English pedagogues, offer to students multiple benefits (Department for Education and Skills, 2005a). Being involved in dancing offers the young a wide range of benefits and social skills not only in terms of dealing with obesity but of boosting self-confidence and self-respect (Filippou, 2015a; Filippou et al., 2016).

Despite the above observations, the satisfaction student experience from their participating in the Physical Education class seems to decrease (Papaioannidou et al., 2015) while the number of teenage students feeling stressed seems to increase, especially when students go to Secondary School (Hampel & Petermann, 2005). High levels of anxiety are observed during the transition from Primary to Secondary School (Lowe, Raad, & Lee, 2008; Torsheim & Wold, 2001). Boekaerts, Seegers, and Van den Goor (1993) also reported that students who display stress symptoms during the transition from Primary School to Secondary School emphasized that they felt uncertain and unhappy due to stressors such as complex timetables, long hours, complex grading systems, and quantity of homework. These school-related stressors may, in turn, have a negative impact on students’ health.

High levels of anxiety influence concentration negatively and decrease memory, which is essential for school success. High stress caused by school environment can produce somatic and psychological symptoms. The presence of headaches, abdominal pains and musculoskeletal disorders are a frequent phenomenon during the phase of early adolescence and are related to school stress (Siebelink & Treffers, 2001; Silverman & Ollendick, 2005). A study by Murberg and Bru (2007) among adolescents (13-16 years old) from two junior high schools in a city in South West Norway indicated that perceived school stress related significant with somatic symptoms. If academic anxiety is not properly addressed, it can have many serious and long lasting consequences such as causing a student to perform poorly at homework, fail classes and withdraw from socializing with peers or pursuing activities that interest him.

In the above causes Kraag et al. (2006) add the heavy, even excessive, demands for high school performance on the part of relatives and school environment, as well as situations of conflict arising among students.

Stressful situations which students experience in the school environment may possibly causes not only of bodily symptoms but also the appearance of law-breaking behavior. Insomnia, stomach aches and feelings of sickness (Witkin, 1999) as well as concentration problems and incapacity to study at home (Lohaouset al., 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 et al., 2004).

Interdisciplinary teaching could positively contribute to students’ stress reduction and satisfaction increase while participating in class, as it positively affects learning (Papaioannidou et al., 2015). It also positively contributes to the development of language skills (Derri et al., 2010), of kinetic skills (Derri et al., 2001), of health-related fitness and nutrition practices (Derri et al., 2004; Bebetsos & Antoniou, 2008; Dimitrakaki et al., 2013).

From the above statements, it is easy to understand the importance of decreasing the levels of anxiety through educational procedures. Nevertheless, there is a scarce of bibliography focusing on an interdisciplinary approach to the Greek traditional dance, with thematic choices from music and sociology and also investigating the decrease of anxiety and the satisfaction taken by students who participate in the lesson.

The aim of the present study was to investigate a) how effective is an interdisciplinary program for teaching Greek traditional dance with topics of music and sociology at the satisfaction taken by 8th grade Middle School students, who participate in such lessons and their decrease of anxiety levels, b) whether the satisfaction and reduce the anxiety levels is such effective for the boys as for the girls c) the relation between satisfaction and anxiety levels.

METHOD

Participants

The sample of the research consisted of 260 male and female students attending 11 classes of the 8th grade of Middle School. Following a ballot, six classes became the experimental group and fifth the control group. The experimental group included 76 male students and 68 female ones. The control group had 58 male and 58 female students. The experimental group attended an interdisciplinary, intervention program teaching Greek traditional dance, with thematic choices from music and sociology (table 1 & 2) and the control group attended Greek dances as defined by the analytical program of P.E. (table 3).

Intervention program

The intervention program lasted four weeks with classes being held twice a week. Eight (8) interdisciplinary folk dance classes, exploiting material from music and sociology, were held for the experimental group and eight (8) typical folk dance classes, as defined by the School Curriculum, for the control group, were held during the Physical Education class and lasted 45 minutes. The same Physical Education teacher taught both the experimental and the control group.

There will be an analysis of two, indicative, courses which elicit their topics from music (the concept of tempo: Allegretto – moderately & Vivace) (table 1) and sociology (cooperation) accordingly (table 2). The aim of this class was to teach the concept of
“tempo” throughout the teaching of dance “Hasapia”. The tempo of music varies from Larghissimo (very - very slow - 24 bpm and under) to Prestissimo (very - very fast - 200 bpm and over). Hasapia is one of the dances which we can meet up in almost all over the Greek regions and with a great variety as far as tempo’s concerned (very, very fast- 200 bpm and over). For dancing, we used music in tempo from 120 bpm to 170 bpm(Vivace). The metronome marks helped students understand the different tempos. The other three courses had been organized in the same way.

Table 1
Experimental group interdisciplinary program with topic of music

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Dance – Subject</th>
<th>Aim</th>
<th>Teaching Aids</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Gaida - Music</td>
<td>Learning of dancing kinetic form – The concept of rhythm (4/4)</td>
<td>Cd player, drum</td>
</tr>
<tr>
<td>2nd</td>
<td>Hasapia - Music</td>
<td>Learning of dancing kinetic form. The concept of tempo: Allegretto – moderately &amp; Vivace</td>
<td>Cd player, metronome marks</td>
</tr>
</tbody>
</table>

The aim of this class was to indicate the importance and the necessity of cooperation through the teaching of dance ‘Tsamikos’. For the purpose of the course with sociological topics, students were separated into four groups of five students, led by those students who knew how to dance Tsamikos. The four group leaders were the ones who took the responsibility to teach this dance to the rest members as well as to present in their groups the information collected by their selves. Information about the regions in which this dance is usually danced from the people who are dancing it and of course about the different songs and music variations about this dance. In the end students’ evaluation by the Physical Education teacher evaluated the groups’ dance performance. The other three courses had exactly the same organization.

Table 2
Experimental group interdisciplinary program with topic of sociology

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Dance – Subject</th>
<th>Aim</th>
<th>Teaching Aids</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th</td>
<td>Kalamatianos- Sociology</td>
<td>Learning of dancing kinetic form. Coexistence in team.</td>
<td>Cd player, teaching in groups.</td>
</tr>
</tbody>
</table>
Measurements

Table 3
Control group program

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Dance</th>
<th>Aim</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Gaida</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
<tr>
<td>2nd</td>
<td>Hasapia</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
<tr>
<td>3rd</td>
<td>Kalamatianos</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
<tr>
<td>4th</td>
<td>Zonaradikos</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
<tr>
<td>5th</td>
<td>Zonaradikos</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
<tr>
<td>6th</td>
<td>Tsamikos</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
<tr>
<td>7th</td>
<td>Tsamikos</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
<tr>
<td>8th</td>
<td>Ballos</td>
<td>Learning of dancing kinetic form</td>
<td>cd player</td>
</tr>
</tbody>
</table>

To measure student satisfaction during lesson the 5-item scale of Duda and Nicholls (1992), adapted for the Greek physical education class by Papaioannou et al. (2002), was used. Following the stem “In today’s physical education class…” students responded to the questions: “I found the lesson interesting,” “I liked the lesson,” “I was fully involved in the lesson,” “I had fun,” “I found time flies.” Responses were given on a five degree Likert type scale (5 = strongly agree, 1 = strongly disagree).

To collect data concerning the stress students feel during class the questionnaire “Competitive State Anxiety Inventory” by Martens et al. (1990) was used, adapted for the Greek population by Kakkos and Zervas (1996). The Competitive State Anxiety Inventory composed of 15 items that represent three factors. The first factor, “somatic anxiety” is composed of five items of the type “I feel tense in the stomach” and investigates bodily anxiety experienced by a student during class. The second factor, “cognitive anxiety” is also composed of five items of the type “I am concerned about reaching my goal” and examines student stress during the learning procedure. Finally, the third factor, “self-confidence” examines the confidence students feel for their skills and composed of five items of the type “I am confident about pulling through under pressure”. The answers were given on a five degree Likert type scale, from 1 (absolutely disagree) to 5 (absolutely agree).

Measurement process

To secure students participation in the research, parent permission was asked. It was a written permit and no data revealing the identity of the students for the completion of the questionnaires was required.

Statistical Analysis

For the statistical analysis of the data, the method used was the Descriptive analysis, Reliability analysis, Pearson correlations analysis, Independent Sample t-test and the repeated measures Anova analysis.
FINDINGS

Reliability analysis

The internal cohesion of the questionnaire was checked with a Cronbach test. The results supported the structural validity of the questionnaires and the factors were found to have a high degree of internal cohesion in both measurements. Cronbach’s α for all scales for pre and post-test measurements were: for “satisfaction” .91 and .95, for “somatic anxiety” .97 and .94, for “cognitive anxiety” .97 and .87, and for “self-confidence” .87 and .89 respectively. The results revealed that the all factors had a satisfactory reliability score (α>.60).

Independent Sample t-test

Initially, the Independent Sample t-test analysis was applied to check whether there were any statistically significant differences in the questionnaire factors between the experiment and control group at the initial measurement. The results did not reveal any statistically significant differences between the two groups in “satisfaction”, “cognitive anxiety”, “somatic anxiety”, and “self-confidence”. Therefore, the members of the two groups were considered to be characterized by the same level in the factors which were studied before the commencement of the program (Table 4.).

Table 4
Means and Standard Deviation of the experiment and control group at the initial measurement

<table>
<thead>
<tr>
<th>Factors</th>
<th>Experimental</th>
<th>Control</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Satisfaction</td>
<td>2.91</td>
<td>2.87</td>
<td>.338</td>
<td>258</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>2 Cognitive anxiety</td>
<td>4.28</td>
<td>4.27</td>
<td>.039</td>
<td>258</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>3 Somatic anxiety</td>
<td>4.31</td>
<td>4.32</td>
<td>.079</td>
<td>258</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>4 Self confidence</td>
<td>1.62</td>
<td>1.63</td>
<td>-.335</td>
<td>258</td>
<td>&gt;.05</td>
</tr>
</tbody>
</table>

Correlation analysis

A Pearson product-occasion correlation coefficient was computed to assess the relationship between the amount of student (experimental group) satisfaction and cognitive, somatic anxiety and self-confidence. Results indicated that there was a positive correlation between satisfaction and self-confidence (r=.546, p<.01). The increase in satisfaction correlated to the increase in the self-confidence ratings. Additionally, there was a negative correlation between satisfaction and somatic anxiety (r=-.445, p<.01) as well as with cognitive anxiety (r=-.514, p<.01). The increase in satisfaction correlated to the decrease in somatic and cognitive anxiety ratings.

Repeated Measures

The Repeated measures Anova analysis was applied for the «satisfaction» factor. The analysis model (2X2) included the variable “measurement” (initial - final) as the repetition variable and the variable “group” (experimental - control) as the independent variable. The results showed that there was a statistically significant interaction between the variable “measurement” and “group” for the «satisfaction» [F(1,258)=169.69, 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 program, while the control group did not show any statistically important difference (table 5).

As concerns the effect of the program one can highlight the following: a) the students of the experimental group had a steady development after every single measurement \((F_{(1,132)}=333.04, \ p<.05, \ \text{initial measurement } M=2.48 \ \& \ \text{SD}= .56, \ \text{final measurement } M=3.60 \ \& \ \text{SD}= .55)\), increasing satisfaction, while the control group did not have any statistically important differentiation \((F_{(1,132)}=.010, \ p>.05, \ \text{initial measurement } M =2.62 \ \& \ \text{SD}= .75, \ \text{final measurement } M=2.63 \ \& \ \text{SD}= .75)\), b) female students of the experimental group presented an important differentiation after every single measurement \((F_{(1,124)}=104.04, \ p<.05, \ \text{initial measurement } M=3.38 \ \& \ \text{SD}= .61, \ \text{final measurement } M=4.01 \ \& \ \text{SD}= .46)\) increasing satisfaction. The female students of the control group did not present a statistically important difference \((F_{(1,124)}=.017, \ p>.05, \ \text{initial measurement } M=3.12 \ \& \ \text{SD}= .86, \ \text{final measurement } M=3.13 \ \& \ \text{SD}= .86)\).

Table 5
Means (M), Standard Deviations (SD), Significant Differences (F) at the initial and final measurement

<table>
<thead>
<tr>
<th>Factors</th>
<th>Group</th>
<th>Initial M</th>
<th>Initial S.D</th>
<th>Final M</th>
<th>Final S.D</th>
<th>Measurement/Group Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self confidence</td>
<td>Experimental</td>
<td>1.62</td>
<td>.36</td>
<td>4.08</td>
<td>.51</td>
<td>(F_{(1,250)}=1665.02, \ p&lt;.001)</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1.63</td>
<td>.29</td>
<td>1.63</td>
<td>.30</td>
<td></td>
</tr>
<tr>
<td>Cognitive anxiety</td>
<td>Experimental</td>
<td>4.31</td>
<td>.62</td>
<td>4.31</td>
<td>.62</td>
<td>(F_{(1,258)}=1274.44, \ p&lt;.001)</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>4.32</td>
<td>.62</td>
<td>4.31</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>Somatic anxiety</td>
<td>Experimental</td>
<td>4.27</td>
<td>.42</td>
<td>4.27</td>
<td>.41</td>
<td>(F_{(1,258)}=1706.31, \ p&lt;.001)</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>4.28</td>
<td>.52</td>
<td>1.74</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Experimental</td>
<td>2.91</td>
<td>.74</td>
<td>3.79</td>
<td>.55</td>
<td>(F_{(1,250)}=169.69, \ p&lt;.001)</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>2.87</td>
<td>.84</td>
<td>2.88</td>
<td>.85</td>
<td></td>
</tr>
</tbody>
</table>

Note: statistically significant * \(p<.05\), **\(p<.01\), ***\(p<.001\)

The Repeated Measures Anova was used for the factor “cognitive anxiety”. The analysis model 2X2 included the variable “measurement” (initial – final) as repetition variable and the variable “group” (experimental – control) as independent variable. The results showed that there was a statistically important interaction between the factors “measurement” and “group” for “cognitive anxiety” [\(F_{(1,258)}=1706.31, \ p<.001\)]. The interaction analysis, with the use of the multiple comparison test (Post Hoc Bonferroni), showed that the experimental group statistically significant reduced the level of cognitive anxiety after the end of the intervention program, while the control group remained stable (table 5).

As concerns the effect of the program one can highlight the following: a) the male students of the experimental group had a steady development after every single measurement \((F_{(1,132)}=2456.65, \ p<.05, \ \text{initial measurement } M= 4.24 \ \& \ \text{SD} = .50, \ \text{final measurement } M=1.59 \ \& \ \text{SD}= .40)\) reducing cognitive anxiety, while the male students of the control group did not have any statistically important differentiation \((F_{(1,132)}=.013, \ p>.05)\).
p > .05, initial measurement M = 4.24 & SD = .40, final M = 4.24 & SD = .41), b) the female students of the experimental group presented an important differentiation after every single measurement (F(1,124) = 1525.13, p < .05, initial measurement M = 4.32 & SD = .55, final M = 1.90 & SD = .51) reducing cognitive anxiety. The female students of the control group did not present a statistically important difference (F(1,124) = .001, p > .05, initial measurement M = 4.31 & SD = .42, final M = 4.30 & SD = .44).

Also, the Repeated Measures Anova analysis was applied for the factor “somatic anxiety”. The analysis model 2X2 included the variable “measurement” (initial–final) as the repetition variable and the variable “group” (experimental – control) as independent variable. The results showed that there was a statistically significant interaction between the variables “measurement” and “group” for “somatic anxiety” [F (1,258) = 1274.44, p < .001]. The interaction analysis, with the use of the multiple comparison test (Post Hoc Bonferroni), revealed that the experimental group statistically significant reduced its score on average after the end of the intervention program, while the control group did not show any statistically important difference (table 5).

As concerns the effect of the program one can highlight the following: a) the students of the experimental group had a steady development after every single measurement (F(1,132) = 3382.28, p < .001, initial measurement M = 4.39 & SD = .46, final M = 1.87 & SD = .28) reducing somatic anxiety, while the students of the control group did not show any statistically important difference (F(1,132) = .000, p > .05, initial measurement M = 4.24 & SD = .70, final M = 4.24 & SD = .70), b) the female students of the experimental group presented an important differentiation after every single measurement (F(1,124) = 809.84, p < .001, initial measurement M = 4.22 & SD = .74, final M = 1.94 & SD = .42) reducing somatic anxiety. The female students of the control group did not present any statistically important difference (F(1,124) = .012, p > .05, initial measurement M = 4.40 & SD = .52, final M = 4.39 & SD = .53).

The Repeated Measures Anova was used for the factor “self-confidence”. The analysis model 2X2 included the variable “measurement” (initial – final) as repetition factor and the variable “group” (experimental – control) as independent factor. The results showed that there was a statistically important interaction between the variables “measurement” and “group” for “self-confidence” [F (1,258) = 1665.02, 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 program, while the control group did not show any statistically important difference (table 5).

As concerns the effect of the program one can highlight the following: a) the students of the experimental group had a steady development after every single measurement (F(1,132) = 2051.79, p < .05, initial measurement M = 1.56 & SD = .27, final M = 4.03 & SD = .54) increasing self-confidence, while the students of the control group did not show any statistically important difference (F(1,132) = .012, p > .05, initial measurement M = 1.66 & SD = .25, final M = 1.67 & SD = .25), b) the female students of the experimental group presented an important differentiation after every single measurement (F(1,124) = 1673.70, p < .001, initial measurement M = 1.68 & SD = .44, final
Increasing their levels of self-confidence. The female students of the control group did not present any statistically important difference ($F_{(1,124)} = .000$, $p > .015$ initial measurement $M=1.60$ & $SD=.32$, final $M=1.60$ & $SD=.32$).

**DISCUSSION AND CONCLUSION**

The aim of this study was to investigate the effect of an interdisciplinary program of teaching Greek traditional dance with topics from music and sociology to the satisfaction of 8th grade Middle School students and the reduction of anxiety levels, and if this effect was similar for boys and girls, and to explore the relationship between students satisfaction and anxiety levels.

The statistical analysis of the data showed noticeable differentiation regarding the experimental group students in comparison to those of the control group. Particularly, there was a significant increase in the satisfaction and self-confidence levels of the experimental group students participating in the program. Apparently, the interdisciplinary approach to traditional dance made the class more interesting, appealing and fun, which significantly altered the attitude of students to the class, making them take part in it with greater attention. The results of the research confirmed by other research results (Stivaktaki et al., 2010), according to which interdisciplinary teaching positively contributes to the increase in the level of students satisfaction arising from class participation. According to Westerhold (2000), this happens because male and female students come to realize that activities such as interdisciplinary classes aim at teaching and learning something important and essential. Finally, gender constitutes a crucial factor of differentiation, with boys exhibiting a statistically greater satisfaction increase than girls.

Although the initial measurement of the experimental group showed low levels in all factors after the intervention program results showed a decrease in both “somatic” and “cognitive” anxiety, while the percentage of the “self-confidence” factor increased. Dancing and its interdisciplinary approach constitute reliable means by which participants can get joy, entertainment and fun and be released from any stress they feel, simultaneously, enhancing their self-confidence (Filippou, 2015b; Pitsi & Filippou, 2014). Those results are astonishing as far as boys are concerned, as they do not choose to participate in activities such as traditional dance (Filippou, 2016). Prior research carried out in the sports field, showed that male athletes exhibit higher self-confidence levels and mental stress (Bebetsos & Konstantoulas, 2006). Dancing is an activity suitable to boys as well as they not only reduced their “somatic” and “cognitive” anxiety but they also experience an increased confidence and can become better achievers in a field.

From all the above it is easily concluded that the interdisciplinary teaching of folk dance constitutes a reliable teaching approach, as it increases students’ satisfaction and self-confidence caused by their participation in the class and on the other in the decrease of bodily and mental anxiety, two factors highly responsible for many malfunctions.
LIMITATIONS

The results of the research apply exclusively to 8th grade Middle school student of a certain cultural environment. To confirm the results more research should be conducted on a larger sample of various ages and of other cultural environments. Finally, future research could examine similar teaching approaches drawing on material from various fields, such as anthropology, chemistry and costume-design.

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