



**THE EFFECT OF GREEK TRADITIONAL DANCES,
SONGS, AND GAME-BASED ACTIVITIES ON ANXIETY
AND ENGLISH LEARNING AT SCHOOL IN STUDENTS
WITH INTELLECTUAL DISABILITY**

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Abstract:

The present study aimed to examine the effects of a program with teaching means Greek traditional dances, songs, and game-based activities on anxiety and English learning at school in students with intellectual disability (ID). The research involved 20 students with ID, who attended a Special Needs Vocational High School and were randomly divided into an intervention group (n=10) that was taught the English language with Greek traditional dances, songs, and game-based activities, and a control group (n=10) who participated in the standard English language course, for once a week for 45-minutes, for 12 weeks. Before and after the 12 weeks, the State-Trait Anxiety Inventory (Spielberger et al., 1970) was used to assess anxiety and specially designed cognitive tests to assess English learning. Before the beginning of the program, there was no difference between the two groups concerning the studied variables. However, after the program, the two groups showed significant differences in all variables ($p < 0.01$ - < 0.001). More specifically, after the intervention program there was a significant decrease ($z = -2.157$, $p < 0.05$) in anxiety and a very significant improvement of the students with ID in the cognitive tests for the lessons taught ($p < 0.01$). For the control group, anxiety remained unchanged, while all cognitive test scores in the English language slightly improved except for the significant improvement in the unit prepositions ($p < 0.05$). However, intervention group scores were significantly higher on all cognitive tests in the English language ($p < 0.01$ - < 0.001). In conclusion, the positive effect of Greek traditional dances, songs, and game-based activities on anxiety and English language learning by students with ID is evident.

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1. Introduction

The language with which every individual is brought up constitutes the center of human self-expression. This ability to communicate is strengthened through the process of learning foreign languages (WorldAtlas, 2022). Nowadays, the English language is one of the most widespread languages worldwide. It is worth mentioning that when someone does not know English, they are considered “illiterate”. Therefore, it is useful for everybody to speak English. Learning and speaking English offers many communication opportunities. The ability to communicate with numerous people can be only achieved through widespread education. This is the reason why English is taught as a second language at schools in many countries all around the world. Specifically in Greece, English is taught throughout all school grades, both in typical schools for typical students, as well as in special education schools for students with ID (Ministry of Education and Religious Affairs of Greece, 2021).

However, is it easy for students with ID to learn English? Students with ID have difficulties or deficits with their perceptual and memory skills, focusing attention, retrieving prior knowledge and experiences, associating, and classifying related knowledge and experiences, and executive functioning. However, their most important characteristic, which has a negative effect on the learning process, is the difficulties, deficiencies, and inadequacies found in their cognitive skills (Kirk et al., 2016). Specifically, children with mild IDs face many learning difficulties due to their slow process of development. They are forced to develop faster based on the development that usually occurs to children, despite their more limited and slow development, depending on their level of ID (Angelka, & Goran, 2018). Thus, teachers should apply means that will facilitate the students with ID in the process of English learning.

Means like dances, songs, and game-based activities have been proven to help students in the learning process (Dzanic, & Pejic, 2016, Surujlal, 2013). More specifically, dance helps reduce anxiety and creates the appropriate conditions for the students to feel comfortable (Dzanic, & Pejic, 2016). Dance, also, generates a feeling of trust and security. While students dance, they develop the skills of problem-solving and use higher-order thinking skills (Purcell, 1994). Moreover, songs create positive feelings and make the process of learning fun. Thus, songs affect students’ mentality positively (Sharma et al, 2021). On the other hand, game-based activities engage the learning technique *learning by doing* (Piaget, 1952). In addition, they offer a pleasant environment, boost both students’ confidence and satisfaction, and promote group cooperation and interaction (Vasileva-Stojanovska et al., 2014).

Anxiety plays an important role in learning a foreign language since it can impede students’ communication with others (Horwitz et al., 1986). Specifically, anxiety acts as a barrier to language learning because it interferes with learners’ input (Krashen, 1987). Anxiety negatively impacts students’ intrinsic motivation (Sun et al., 2017). Therefore,

students with higher levels of anxiety had worse performance than those with lower anxiety levels while learning a foreign language (Sparks, & Ganschow, 2007).

From the review of the relevant literature, it appeared that there are reports on the effects of dances, songs, and game-based activities on teaching English to typical students and younger typical students. However, as far as we know, there are no studies on the benefits of students with ID from their participation in a program of English teaching with Greek traditional dances, songs, and game-based activities during the English course at school. For these reasons, the purpose of the present study is to examine the effects of a program with didactic means of Greek traditional dances, songs, and game-based activities on anxiety and English learning at school in students with ID.

2. Method

2.1 Sample

In the present study, participated 20 students, 7 girls, and 13 boys, with mild ID. All the participants were students of a Special Needs Vocational High School in Greece and particularly attended the 3rd grade of high school. The mean age of the participants was $19,90 \pm 0,852$ years. The students were divided randomly into the intervention group (n=10) and the control group (n=10).

2.2 Procedure

Initially, all participants answered the State-Trait Anxiety Inventory (STAI) for trait anxiety (Spielberger et al., 1970) before the 12-week intervention program. In addition, they took tests specially designed for the needs of the present study concerning their knowledge of English. Then, the students in the intervention group participated in the 12-week program, during which they were taught English with educational means of Greek traditional dance, English songs, and game-based activities, while the students in the control group were taught the English language according to the curriculum defined by the Greek Ministry of Education and Religious Affairs. The lessons took place once a week, for 45 minutes each lesson. After the end of the 12 weeks, all the students answered again both STAI and the cognitive tests. The STAI test was answered in a personal interview with the help of the researcher-English teacher to facilitate the students with ID.

The lessons were divided into 4 different sections and included: a) prepositions, b) ordinal numbers, c) the comparative and superlative form of adjectives, and d) vocabulary concerning food groups and diet. Each section lasted 3 weeks, therefore in total, the program lasted 12 weeks. The students in the intervention group were taught each of the 4 phenomena with the help of an English song related to each section, participated in game-based activities such as hopscotch, treasure hunt, hot potato, games with balls, etc., and danced freely and one Greek traditional dance for every section. The Greek traditional dances executed were Omal, Menousis, Kastrinos, and Grigoros Hasapikos. Both the English song and the Greek traditional dance song shared the same

music meter and tempo, allowing the students to sing in English and dance the Greek traditional dances at the same time.

2.3 Scale of Measurement

The State-Trait Anxiety Inventory form 2 (STAI) of Spielberger, Gorsuch & Lushene (1970), was used, for the measurement of trait anxiety. All subjects completed the 20-item trait anxiety subscale, STAI-Y2, for trait anxiety measurement, with scores ranging from 20 to 80 degrees.

2.4 Cognitive Tests

Four different cognitive tests were designed specifically for the needs of the present study. Each test includes one of the four phenomena taught throughout the 12 weeks, meaning prepositions, ordinal numbers, comparative and superlative forms of adjectives, and vocabulary concerning food groups and diet. All cognitive tests were given before and after the 12 weeks. The cognitive tests are shown in Table 1. The total score of the tests was 50 points, 10 points for each of the first three phenomena, and 20 points for the last phenomenon.

Table 1: Taught phenomena and cognitive tests

Tests	Phenomenon	Theme
Test 1	Prepositions	Completion with the correct preposition (on, in, at) or the correct word that matches each preposition: 10 blanks-10 points
Test 2	Ordinals	A. Completion with ordinal numbers (1 st -10 th) based on a picture with runners at the finishing line: 5 blanks-5 points B. Completion with ordinal numbers (11 th -105 th) based on the story in which the students run a marathon: 5 blanks-5 points
Test 3	Comparative & Superlative of adjectives	Completion of a chart with the comparative and the superlative form of 10 adjectives given, including adjectives with one syllable, adjectives with more than 2 syllables, and irregular syllables: 10 blanks-10 points
Test 4	Food Groups & Diet	Completion with the correct food word under the pictures given, including fruit, vegetables, dairy products, meat products, and grains: 20 blanks-20 points

2.5 Statistical Analysis

For the statistical analysis of the results, the statistical package SPSS, version 28.0 for Windows was used. Non-parametric Wilcoxon test was performed to check the differences between the measurements, before and after the 12-week English language teaching program using Greek traditional dance, songs, and game-based activities for the intervention group and before and after the 12 weeks for the control group. Pearson correlation was used to evaluate correlations between the studied variables. The level of significance was set at $p < 0.05$.

3. Results

Figure 1 and Table 2 present the anxiety scores of the students who participated in the control group and the intervention group.

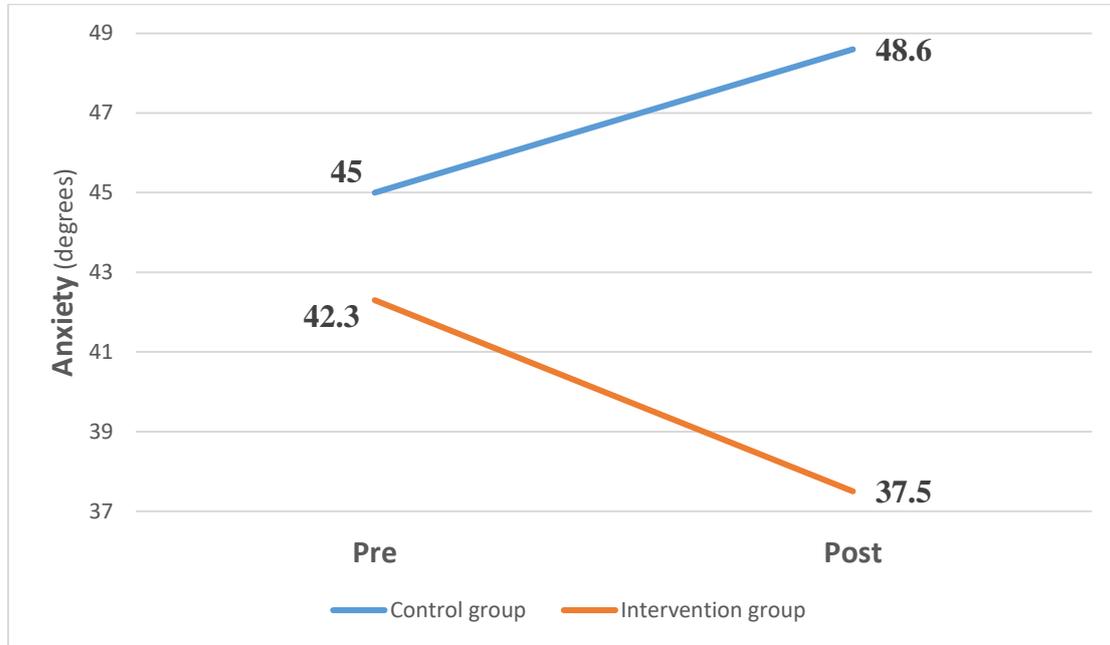


Figure 1: Anxiety of the control and intervention group

As shown in Figure 1 and Table 2, the control group not only did not decrease their anxiety after the 12 weeks, but they increased it significantly from 45.00 ± 4.19 to 48.60 ± 6.11 degrees. On the other side, after the 12-week intervention program during which the students of the intervention group were taught English through dance, songs, and fun game-based activities, they managed to significantly decrease their anxiety levels from 42.30 ± 9.61 to 37.50 ± 7.38 degrees (Figure 1, Table 2).

Table 2: Values and significant differences in anxiety of the control and intervention group before and after the 12-week period

	Control group	Intervention group
Anxiety before	45.00 ± 4.19	42.30 ± 9.61
Anxiety after	48.60 ± 6.11	37.50 ± 7.38
z & p	1.906 $p > 0.05$	-2.157 $p < 0.05$

Table 3 presents the scores of the students in the intervention group regarding the 4 cognitive tests. As it is observed, there was a very significant improvement in the scores of the intervention group concerning their knowledge of the English language. The students in the intervention group accomplished to increase their scores in all four tests, not only reaching the statistical significance threshold but by far surpassing it. The mean scores of the students in the intervention group increased their mean scores not only

statistically, but also substantially. Despite their low mean scores in the pretests (0.90, 1.10, 0.70, 3.30 points), they managed to increase them in the posttests significantly. Moreover, the mean scores were all above the base of the tests, which were 5 out of 10 points for the first three tests and 10 out of 20 points for the last one. More specifically, the mean scores of the tests were 6.60, 6.90, 7.30, and 13.30 points, a fact that points out the important improvement of the knowledge in English regarding the intervention group (Table 3).

Table 3: Cognitive test results of the intervention group

	Test 1 (points)	Test 2 (points)	Test 3 (points)	Test 4 (points)
Before	1.00±2.16	1.00±2.49	0.70±1.57	3.30±4.45
After	6.60±1.90	6.90±3.45	7.30±2.21	13.30±5.75
z & p	-2.820 p<0.01	-2.814 p<0.01	-2.810 p<0.01	-2.809 p<0.01

Table 4 presents the scores of the students in the control group regarding the 4 cognitive tests. The tests represent their knowledge of the 4 units they were taught in English. As can be seen, the control group increased slightly but not significantly their knowledge in the 3 units, however, their improvement was statistically significant only in test 1, since they increased their scores from 0.90±1.91 to 3.90±2.33 points. It is important to mention that the students in the control group started with poor knowledge concerning all four phenomena taught. Their mean scores in the 4 tests at the baseline were 0.90, 1.10, 0.70, and 3.30 points respectively, out of 10 points for tests 1, 2, and 3 and out of 20 points for test 4. Their improvement in test 1 was statistically significant, yet they increased their mean score from 0.90 to 3.90 points, meaning that their score did not even touch the base of the test, which was 5 out of 10 (Table 4).

Table 4: Cognitive test results of the control group

	Test 1 (points)	Test 2 (points)	Test 3 (points)	Test 4 (points)
Before	0.90±1.91	1.10±1.73	0.70±1.34	3.30±3.89
After	3.90±2.33	2.70±3.33	1.70±3.09	5.40±5.74
z & p	-2.136 p<0.05	-1.577 p>0.05	-1.069 p>0.05	-1.895 p>0.05

Table 5 presents the correlation between students' anxiety values and test performance in English. Correlational analyses between students' anxiety values and test performance in English were conducted to determine the degree to which these measures were or were not associated (Table 5).

Table 5: Correlations between anxiety values and test performance in English

	Anxiety	Test 1	Test 2	Test 3	Test 4
Anxiety	1.00	-.287	-.289	-.573**	-.485*
Test 1	-.287	1.00	.767**	.802**	.784**
Test 2	-.289	.767**	1.00	.821**	.863**
Test 3	-.573**	.802**	.821**	1.00	.866**
Test 4	-.485*	.784**	.863**	.866**	1.00

* Correlation is significant at the 0.05 level (2-tailed)

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

From the results in Table 5, it appears that all the correlations derived from one side anxiety and the other side the test performance in English are negative. This means that as anxiety decreases, student achievement increases. Nevertheless, only tests 3 and 4 provide statistically significant results regarding anxiety-test performance correlation ($t=-0.573$, $p<0.01$ and $t=-0.485$, $p<0.05$, respectively).

4. Discussion

The results of the present study demonstrate that the 12-week intervention program with GTD, songs, and game-based activities during the English language lesson at school had significant effects on students with ID. Specifically, there was an improvement in anxiety and, also, in the four tests concerning performance in the English language course. Conversely, students with ID in the control group increased their anxiety. Concerning performance in English, the students in the control group slightly increased their knowledge in the 4 units they were taught in English but had statistically significant results only in the test regarding prepositions. This fact was expected since they attended the standard English language lessons. However, this increase in their knowledge may be statistically significant, yet it does not show substantial improvement concerning the English language because they did not achieve to pass the base of the test, which was 5 out of 10 points. On the other hand, the students in the intervention group had both statistically significant results in all 4 tests and presented substantial improvement in their knowledge in English. Their mean scores on all tests were above borderline, meaning that they managed to pass all the tests.

It is worth mentioning that learning a second language, which is unknown to students, is a difficult educational process. All students experience anxiety during this process, the anxiety of exposure as they have to express themselves in an unfamiliar language. In particular, students with ID who fall behind and face many difficulties in the learning process, experience higher levels of anxiety. This anxiety inhibits language learning. That is why, in the present research, the students of the control group did improve their knowledge, due to attending the standard English courses, but not adequately. However, teaching the English language through dancing, singing, and game-based activities, reduced the anxiety of the students with ID, which freed them, relaxed them, and were thus able to learn the taught units better and perform to a greater

extent. Therefore, the learning environment should be enriched, multisensory, interactive, and challenging, leading to effective language teaching. This can be achieved during the teaching process by using dances, songs, and game-based activities.

Teaching English to young learners cannot be seen only as teaching the language. This challenging process should be considered the social and cognitive development of learners (Dzanic, & Pejic, 2016). To do this, it is necessary to create an atmosphere that resembles the one that is natural to children. One of the best ways to create such a natural, anxiety-free environment is through interesting activities. Songs, dances, and game-based activities certainly belong to the group of fun activities that serve as useful tools for learning the language (Dzanic, & Pejic, 2016; Escaip, 2010, Trajkovik et al., 2018).

More specifically, songs are one type of listening activity that has a broad potential. Music and songs are essential parts of growing and learning. Children love to sing, and teachers naturally use songs to teach them concepts and languages in a fun way. Some of the significant characteristics of songs are that they are fun and can keep the students excited. Concerning children with ID, who are easily distracted, have lower task orientation, tend to be hostile, and find it difficult to control their behavior and focus on their task performance (Barabasz, & Barabasz, 2000; Cavanagh, 2001), music acts effectively in improving their attention span, and concentration, enabling them to develop a routine (Brunk, 2004). In addition, music allows children with ID to develop their social and emotional world, as well as promote their cognitive development (Allen, & Marotz, 2003).

Moreover, the most important feature of songs is repetition. The nature of songs is repetitive and creates automaticity in the language-learning process (Chen, & Chen, 2009). They contain language patterns, but also develop listening skills, pronunciation, and rhythm, and provide a fun atmosphere. Even if the teachers play songs multiple times a day, most students probably would not get bored. Through singing, memorization is facilitated, and melody contributes to retrieving information learned (Murphy, 1990). In addition, songs are very beneficial types of activities. There are so many aspects of a language that can be delivered and recycled using songs. They can be used at any stage of a lesson and there are many ways to incorporate them into a lesson. Sometimes, they are used just as gap fillers and warm-ups, sometimes as the main part of a lesson, but sometimes they are there to provide a fun atmosphere (Dzanic, & Pejic, 2016). Songs along with music, facilitate the acquisition of vocabulary and grammar in the target language and improve memorization and pronunciation (Escaip, 2010). The lyrics of songs encode different meanings and worldviews and can convey different stories (Huy Lê, 1999). This may be particularly beneficial in the production of new knowledge and in vocabulary improvement in learners with ID (Surujlal, 2013).

In addition, Chen & Chen (2009), who used popular English songs in an attempt to check students' motivation and performance while learning English as a foreign language, found that students' motivation had increased a lot after using popular songs as a creative means of teaching. The students, also, in the self-report questionnaires, mentioned that they liked the songs, were more interested in learning English, and felt

that they improved their English ability through songs. Additionally, the researchers noted that songs can generate a fun, relaxing, and non-threatening environment, which results in students' lower anxiety and higher learning motivation (Chen, & Chen, 2009), a fact that was observed in the present study. Besides, the results of the present study showed significant negative correlations between anxiety and test performance in English, proving that as anxiety decreases, student achievement increases.

As for dance, students respond well to lessons when dances are incorporated. Dance incorporation in the learning process constitutes kinesthetic learning that by far is the most enjoyable and practical. Thus, dance is not only fun but also an educational, highly effective, and engaging way of teaching a second language (BrightHub Education, 2022). Dance provides students with the opportunity to develop a relationship between body and mind, and several relationships among various domains of knowledge in terms of second language learning. Dance enhances cognitive skills through performance and creation (Purcell, 1994). Dance can be used to teach, reinforce, review, and assess skills and content in any subject matter (Hanna, 2002). Also, dance makes use of multiple intelligences and diversifies the language-learning process. Thus, it could be said that dance is a powerful tool for second language learning (Escaip, 2010).

Concerning children with ID, Surujlal (2013), in his study, interviewed educators of children with ID who used songs and dance as a teaching method. Educators reported that the students with ID improved significantly in vocabulary due to songs. They even mentioned that when they danced along with songs, the results were even better. In addition, educators of children with ID noted that with songs and dance in the learning process, the students with ID are more relaxed and are working very nicely together with the music. Music and dance produce a safe environment, which helps redirect their attention so that they can concentrate on a particular task (Surujlal, 2013). It is worth mentioning that music assists students with ID in reducing hyperactivity. Moreover, students with ID learn to relax with dance and music, which in turn increases their attention and focus (Crump, 2010). Using music and dance in the teaching process compels students to follow and remember movements through information transmission to their brains (Tallapragada, 2007). Last but not least, game-based activities reinforce students' active engagement in the lesson, while creating an experiential learning environment that helps with overall achievement (Cremin, & Arthur, 2014).

Play contributes very much to the development of language skills, imagination and visualization of goals, problem-solving attitude, and socialization during group play. Children learn best through discovering, active exploration, and doing which is a well-known fact in the educational process (Piaget, 1962). Vygotsky (1978) also agrees with Piaget's assumptions concerning the ways children learn, focusing mainly on social constructivist theory and pointing out that collaborative learning, games, and simulations as examples of social constructivist classroom activities. Likewise, the incorporation of traditional games in the teaching procedure can provide cultural cognitive tools that improve significantly both students' experience and learning process

(Vasileva et al., 2018). Therefore, play has an important role in children's cognitive development (Bodrova, & Leong, 2003; Piaget, 1962; Vygotsky, 1978).

Game-based learning intends to improve the learning activities based on interesting media that captivate students' attention and interest and offer a fun and collaborative environment (Hitosugi et al., 2014). The educational games are meant to connect the learning subject and the game with the gamers' ability to apply and retain the knowledge in the real world (Vasileva et al., 2014).

In their study, Vasileva et al. (2014) found many benefits in the use of traditional games in the teaching procedure. More specifically, almost all primary school students who participated in traditional games during different subjects taught at primary school, such as languages, history, sociology, etc. decreased their aggressive behavior (74.7%), and increased inclusion, (83.9%), constructive atmosphere (85.1%), cooperation (94.7%), and teamwork (92%).

Likewise, the students in the intervention group of the present study expressed very positive feelings, were all included and participated with pleasure in the learning process, and stated that the games made the lesson fun. These are facts that can be, also, seen in the performance of the students in the intervention group, regarding both educational achievement in the English language and decreased anxiety levels.

This fact is in agreement with the findings in another study by Vasileva et al. (2018) in which they illustrated the students' experience towards the implementation of traditional games in the teaching procedure. The students considered this new approach to be fun and interesting, while their levels of satisfaction and motivation were emphasized. In addition, Hailey et al. (2013) point out the importance of student motivation during a game-based learning process. The aforementioned researchers observed that the students were extra motivated to participate in the lessons, due to the incorporation of games during the teaching procedure.

Thus, it could be said that the combination of dance, music, and game-based activities as a means of teaching has a significant dynamic in students with ID. Dance together with music fosters a more relaxed learning environment (Escaip, 2010). Songs do not press students to immediately produce the language but to start doing it only when they are ready (Dzanic, & Pejic, 2016), while dances and game-based activities lower the levels of anxiety that students experience. Therefore, the reduced anxiety levels increase attention, reception, and retention (Escaip, 2010), fulfilling the teaching goal, which is English language learning, a fact that was observed in the present study in the students with ID. Consequently, the importance of dance, songs, and game-based activities in the learning process for students with ID has been proven.

5. Conclusion

During a time when 1.5 billion people from different countries worldwide speak English as a second language, making it one of the most common global languages used for business and academics worldwide (WorldAtlas, 2022), a person of the typical

population or a person with ID needs to know, speak, read and write the English language, to communicate, share, work, travel, use mobile phones, tablets, P/C, etc. In this direction, education with means such as dances, songs, and game-based activities can provide the solution and the best possible cognitive result for people with ID as well.

A teaching method that includes traditional dance, songs, and game-based activities leads to a decrease in anxiety, which is very important and, in turn, leads to better student performance. This fact highlights the very significant positive effect of Greek traditional dance, songs, and game-based activities on the psychological state and performance in the English language of students with ID.

Conflicts of Interest Statement

The authors declare that there are no conflicts of interest.

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