

COMPARATIVE STUDY OF THE PERFORMANCES OF GREEK ADOLESCENTS IN DICTÉE

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Abstract: Music dictation (dictee) constitutes one of the most difficult challenges in the teaching of music and is a source of disappointment for the students. Their errors, during this lesson, may be fundamental to our research. The goal of this paper is to observe, describe and analyse the errors made during the recording of melodies western European and tropical Greek demotic music (traditional cosmopolitan melodies). These errors indicate proof and a means of analysis of the mental procedures which are inextricably connected to the teaching of music. Analysing these, we will attempt to discover the causes, which provoke difficulties and are inextricably connected to notes, spaces, scales, drops and rhythmic values. The statistical sample of the students (36 students) is a representative of the two different teaching methods (traditional and Kodaly) in an environment of a specific musical culture (Greek).

KEY WORDS : music education; Western-European music; tonic music; demotic music; music dictation (dictee); errors.

Resumen: El dictée (dictado musical) es una de las pruebas más duras en la enseñanza de la música y fuente de frustración para los estudiantes. Sus errores durante este curso pueden ser reveladores en nuestra investigación. Nuestro objetivo es observar, describir y analizar los errores cometidos en la transcripción de melodías tonales y de música tropical occidental tradicional griega (melodías tradicionales). Estos errores son signos y medios de análisis de los procesos cerebrales que están íntimamente ligados al aprendizaje musical. Analizándolos, trataremos a descubrir las causas de las dificultades que causan estos errores en treinta y seis estudiantes y que están íntimamente ligadas a las notas, los intervalos, los niveles, las cadencias y los valores rítmicos. La muestra estadística de treinta y seis estudiantes es representativa de las dos diferentes enseñanzas (tradicional y Kodály) en un medio ambiente de la cultura musical específica (la sociedad griega). De hecho, el análisis interpretativo de los errores muestra la innegable influencia de la cultura y la educación musical.

Palabras clave: Educación musical; música europea-occidental; música tonica; música popular; música dictado (dictee); errores

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1. Introduction

Modern pedagogy researches different domains of the mental abilities of an individual. It could be approached, amongst others, via three levels:

1. The structure of knowledge, which depends on different pedagogical means, requirements and conditions in order to be obtained.
2. The challenges which affect the individual's abilities via pedagogical methods and exercises.
3. The assessment, which enables, via the research and recording of the accomplished performance of the students within the boundaries of special challenges (exercises), not only to determine the friction points between the pedagogical methods and the methods of each individual student, but also to surface, according to the type of the recommended musical exercise, the elements which cause the errors (Descomps, 1999: 175) and the categories to which they belong.

The requirements of the teaching of music are special in Greece. The number of students per class is restricted due to not only the insufficient pedagogical programme but also to the lack of interest on behalf of the audience. Moreover, teaching is divided among a plethora of auditoriums and music schools, the greater part of which are private.

Thirty six (36) Greek students, who belong to three levels of theoretical teaching, with two different teachers observing and applying a supplementary and pilot teaching of the Kodaly method, constitute a statistical sample rich in information for our research in the analysis of the performance errors in the teaching of tonic mainly music and more specifically in the dictation of music (dictee).

2. Theoretical background

2.1 Music culture (socio cultural dimension) (M. Mauss, 1989: 482), (D. K. Naugle, 2002: 378)

Demotic Greek music² developed parallel to Byzantine music, having been affected by ancient metric. This musical type is mainly monophonic and ignores the major and minor ways. The demotic song finds its roots in Byzantine music (Giannelos, 1996: 252), which combines its scales and modes, using eventually fourteen ways, divided into three categories of five, four and five ways respectively.

² In Greece, we call "traditional" music the whole of Byzantine music, which is linked with the orthodox faith and the "demotic" music, which was created by the residents of Greek villages and islands. See K. STIGA, *"Mikis Theodorakis – the approach to cosmic and folk music"*, Ph.D. thesis in literature and art, Lyon 2006, pg.29

The modes of the first category are used by Modern Greek music and do not present an adduction. In these modes the distance between the 7th and 8th degree is bigger than a semitone and the natural ascending pull does not exist. The modes of the second category have an adduction from the 7th to the 8th degree, however creating, with the suitable modifications of other degrees (alterations of notes), distances of the semitone and among other notes, except for the one which exists between the 7th and 8th. While those of the third category constitute a combination of the first two categories, in other words, although the main adduction is missing (just like the first category) there are one or more secondary adductions among the other degrees.

Demotic songs which contain “Greek echo colours” belong to the first and third category, while those that contain “eastern or gypsy echo colours” with a sensuous and often erotic character belong to the second. The main characteristic of the demotic songs of the second category is that of the space of the ascending second or the augmented second.

Within the fourteen modes which characterise the Greek demotic song, we can also find songs which have been composed in the western European major and minor ways. These, however, in turn derive from, as is already known, from ancient Greek modes.

Within the cultural boundary, we state two hypotheses according to which:

- **Hypothesis 1 (H1):** *The systematic education of the western European music dominates within the musical culture (Greek modal music) of the socio cultural environment of the students, causing, however, significant difficulty in the consolidation and performance.*
- **Hypothesis 2 (H2):** *The conflict between cognitive and experienced (emotional) procedure is caused by the necessary co-existence of two different music systems: the tonic (which involves the cognitive field) and modal (which involves the emotional field).*

2.2 Methods of teaching music (pedagogical dimension)

The traditional method of teaching music in Greece is characterized by the practising of music dictation via the consolidation of the two musically structured elements: melodic and rhythmic (Mialaret , 1978: 58). This involves, to begin with, the parallel acquisition of different skills (Mialaret , 1978: 57) such as the ability to recognise, reproduce and name different heights of notes), the melodic reading of rhythmic melodies, the consolidation of a melodic profile of an ascending form prior to a descending one. Then, the teacher will mention all possible combinations of the sounds of the scale (Mialaret, 1978: 52), from the simplest to the

most complicated. Simultaneously, he introduces students to the tonic structure, and the recognition of the spaces of the fourth and the fifth, which are the most accessible to the human voice, as well as the logic behind the diatonic scale and the interchanging of the semitone. Acquiring a theoretical and practical background from the very first lesson, students can more easily associate reading music with music dictation.

In the Kodaly method, all the previously mentioned elements of learning music are presented in conjunction with the characteristics of Hungarian Folk melodies. It begins with the teaching of songs which contain two or three notes and evolve into the five note ones to be conducted with the diatonic scale.

The learning of the melodic-rhythmic musical extracts is certain via this procedure (Szonyi, 1976: 10). One of the characteristics of this method is attributed to the parallel learning of the song, the listening of musical works, the reading and writing of music whose subject is inextricably connected among them. Different or new notes are not conquered via learning as to their absolute tonic height but via their position in the interior of the relevant scale. This requires that the new sounds are presented as a group of two or more notes, in other words they group together. Students can also refer to notes with different names, as the procedure of phononimie (Selosse, 1982: 229) suggests. An important part of the Kodaly method concerns the domain of internal hearing or “correct” intonation which is achieved via a method of teaching which has been adapted to each child.

2.3 Mental functions of music teaching (psychological dimension)

The acquired knowledge during music teaching is realized with a series of questions which relate to:

- the way in which Greek students develop their different musical abilities
- the individually adapted strategies for the completion of the exercise
- the reasons for which these students (the majority of whom do not have a complete technical and theoretical musical education) do not understand the different structural musical elements (notes, intervals, chords, degrees, scales, tonic forms, converters, rhythmic values)
- the types and frequency of the errors made during the lesson of musical dictation (dictee).

According to R Frances (Frances, 1984: 18), the errors made are attributed mainly to the weakness of the students to

recognise to four basic elements of the melody: the direction or the melodic movement of the melody, the size of the intervals, the quality of the pauses (diatonic, coloured, ascending, descending) and the rhythm (Cummings-Persellin, 1992: 306). The omissions and errors, as far as the rhythmic awareness is concerned, are concentrated mainly in the time and dynamic between the notes. The relationship between the sounds of tonic height and the chronic duration of the rhythm of melody, demand human mental functions, such as perception, understanding, memory, acoustic ability (Cuddy, 1992: 333), the symbolic re-enactment, attention, all of which ought to function either individually or collectively for the recognition of a melody.

In a steadily rising scale system, the point of initiation and interest among its seven degrees is the tonic, the understanding of which determines the hierarchy of the degrees in an octave. Every degree is thus characterised by a special acoustic level, compared to the one of tonic so as to be recognised. The distance between two degrees determines a distance of a tone or a semitone which varies according to the two most taught ways, major and minor. According to B. M. Teplov (Frances, 1984:105), these ways become noticeable not as a consequence of obtained knowledge but as an accumulation of older musical acoustic experiences which are reproduced as feelings of intensity or diffusion, suspension or completion, pausing or moving.

To the above different views, we must add the factor of habit or the already formed musical experience in the modal Greek demotic music which is an integral to daily lives. We also take into consideration the adaptation of the students to the musical culture of the tonic Western-European music, via education, which constitutes a basic desire in the development of a new musician. The basic characteristics of Greek music culture in a society bonded to its traditions, associated with important social events, and entirely attached to the daily musical experiences of the students, vary as far as the principles of the discerning of the octave and the tonic Western-European music are concerned³.

³ The musical education based on the structure and repertoire of demotic music has not entirely disappeared. When a Greek is called upon to recognise the structural elements of a melody of diatonic tempered music, uncommon to his musical mother tongue, he searches unconsciously to determine it based on musical acoustic experience and knowledge which is familiar in his musical everyday experiences. On the contrary, an Italian or French student defines the structural elements of the same melody in a spontaneous way since it derives from his own musical culture and tradition.

The errors which are observed from the confusion caused by the phenomenon of adjusting to a new musical culture have been coined “perception errors” by R. Frances. The acquired musical knowledge depends on one’s musical experiences, according to R. Frances (Frances, 1984:52), to the extent that those musical desires constitute a total of references of the past.

From the previous theoretical frame we can assume that :

- The errors which appear during an educational procedure are attributed to the ability to or not recognise a melody
- The errors which appear during an educational procedure are attributed to the Cognitive and musical culture of a student
- The errors which appear during an educational procedure are attributed to the way in which one uses one’s knowledge⁴.

3. Method procedure

3.1 Description of the research field

The research began with the spot observation of key parties involved (teachers and students), the used pedagogical methods and educational material, in order to deepen better and set boundaries in the area of research and thus declaring its problems (questions and hypotheses). Next, we used a questionnaire of personal evaluation (Singly, 1992:21) with general content aimed at the students (socio-cultural dimension), so as to continue with the method of defining (Blanchet et al., 1992:125) interviews (questions concerning the performance and errors made during specific exercises; psychological dimension). Finally an analysis of the content (Lassare, 1978:167), (Robert *et al.*, 1997:125) was made of the proposed exercises, the tables and graphs created so as to rank the errors. The refining of the performances (errors) of the students was done by transferring the structural elements of the score to three groups of tables, with the description of the errors (types of errors /quality of errors) and with the performing analysis⁵ of the errors (possible reason the errors were made).

3.2 Statistical sample

The research was conducted in the Municipal Conservatory of Patras⁶ (Greece). The committee, which defined the elements of

⁴ For example, some students realise the melodic or rhythmic conversion of the proposed melody.

⁵ We were obliged to significantly reduce the presentation of structure and the results of the research for the article. This is the reason why we don’t present the categorisation of the errors towards the psychological profile of every student according to the principles of pedagogy and the perception of music.

⁶ Which is the third largest city in Greece.

observation (placing of students and teachers etc) was comprised of the Director and two of the teachers of the conservatory. The same committee chose as a sample of observation two different musical-pedagogic systems. It focused on the difficulties which the students face during a specific lesson, dictée, in the specific environment, that of the conservatory. The research was conducted during the academic year 2009-2010 and more specifically the last month of every term (November, March, June). When we were certain we had the best possible research conditions, we recorded 48 hours of lessons in 28 tapes⁷ (the lesson lasts 45 minutes). The statistical sample is comprised of 36 students (18 boys, 18 girls) from 12 to 16 years of age, three classes of third theory⁸ of the Municipal Conservatory of Patras. What is interesting is also the fact that the majority of students belongs to the middle class, affected by a variety of musical influences and benefited by an educational programme which includes the Kodaly method for the first time.

3.3 Musical exercises

In this paragraph we will present the melodic, rhythmic and harmonic elements of the exercises, including some musical characteristics, associated with Greek demotic music. They will be analysed so as to clarify if the recognition or not of some of these demotic elements cause these errors, or still the Cognitive battle⁹ of our students (associated, maybe, with the adjustment phenomenon¹⁰ to the western-european culture).

The exercise of tonic music is written in **e** minor, in 6/8 rhythm and in moderate speed execution (tempo moderato). It contains twelve bars which were divided in six sections of two bars. It also contains a modulation conversion to the relevant **g** minor in bars 3-4 and 7-8.

⁷ We did not use a video-camera because we did not want to disturb the flow of the lessons and the students' concentration, since the hours we were present at the lessons were many.

⁸ A lesson which was part of the compulsory cycle of musical studies and oriented mainly towards tonic Western-European music

⁹ It concerns a mentally produced disorders, which develops in a realistic group learning activity and is caused by a sequence of mental images of Cognitive and cultural human nature, which are activated during the performing, recognition and coding of the exercises of tonic and modal music. The term "Cognitive battle" is used in the PhD thesis which includes the whole of the research. (Micha Paraskevi, "*Etude comparative des performances d'adolescents grecs en dictée musicale et en solfège*", (*Comparative study of the performance of Greek adolescence in music dictation (dictée) and in solfège*), Paris 2009, pg. 7, 10, 34, 134, 202, 238, 239, 252 and 232).

¹⁰ Sociocultural and anthropological dimension

Epreuve de musique tonale

Interval notation above the staff: +3+ -2+ -2- -2+ -2- +2- +6- +3+ -2+ -2+ -2+ -2+ +2+ +2+ +6-

Chord notation below the staff: mi:I I V I SOL:IV V7 I VI

Interval notation above the staff: -5J- -2- -2+ -2+ +6+ +6- -2- +6- -2+ -2+ -2+ +2+ -3+ +2+ +2+ +4J+ +2+ -3- +2- 0

Chord notation below the staff: mi:VI V7 I V SOL:I IV V I mi:V I

Interval notation above the staff: -7- +2- +2+ -5D- +7D+ -2- 0 -3+ -2- -2+

Chord notation below the staff: II IV V V I I

Figure A: The tonic exercise

Epreuve de musique démotique

Inconnu

Interval notation above the staff: +4J +2+ -2+ -2+ +2+ +2+ 0 +2- -2- -2+ 0 +2+ -2+ -2+ -2+ +2+ +2- 0 -2- -2+ +3-

Chord notation below the staff: ré:I IV I V V I II V I VI VI VI

Interval notation above the staff: +2+ -3- -2+ 0 +4J 0 +2+ -2+ -2+ +2+ +2+ -2+ -2+ -2- -2+ 0 0 +6- -2- -2+ -2+

Chord notation below the staff: II I I IV IV II V7 VI VI I I V7

Interval notation above the staff: +2+ -2+ -2- +2+ +2+ -3- -2+ 0 0

Chord notation below the staff: I II V I I

Figure B: The demotic exercise

The specific exercise was chosen taking into consideration the level of studies and the age of the students as well as its melodic, rhythmic, and structural elements. As instruments for the recognition and comparison of the errors is the evidence which came about from their interviews, concerning the most difficult recognisable notes, intervals and rhythmic values.

Therefore, the melodic line contains the intervals of great ascent and small descent of the seventh, the clear and reduced descent of the fifth, the clear ascent of the fourth, the great ascent/descent and the small descent of the third which are all possibly responsible for the difficulties the children face. Several rhythmic elements can cause some insecurity concerning their recognition and performance, as the 6/8 rhythm, the rhythmic phenomenon of the syncopation (bars 10 and 12) and also the pause of the eight and last bar.

The demotic song exercise is a long which is called "Thalassaki" (Sea) which derives from the musical tradition of the Dodecanese, and more specifically the island of Kalymnos, written in soft D and based on the first plagal mode B-C-D-E-F major-G-A-B minor-C-D. This way has similarities with D minor. We also observe that small groups of notes create small concurring motives (i.e. the motive G-A-G repeats itself three times in bars 1,3,6), the absence of the leading note and the use of alien notes. It's a "Kalamatiano" ¹¹ dance in seven rhythm (7/8) (**ta** ta ta, **ta**, ta, **ta**, ta) ¹² and with modest speed ("moderato").

The exercise contains 10 bars and is divided into five sections of two bars. Its harmonic structure does not present special difficulties. The melodic line contains intervals of clear ascent of the

¹¹ Very popular demotic dance (also called isos or syrtos) with very ancient Greek roots. The dancers who comprise the "chain of dancers" which is led by the best dancer and who is the only one who performs many alternative dance steps. The first dancer, with various advancements can lead the "chain" of co-dancers in and out of the invisible circle. The initial position is that in attention, with a small swerve of the whole body towards the right. The characteristic of this is that all the participants hold each others wrist and not the hand. This is an element which shows its ancient descent (possibly laconic), since we know the «by wrist» dance of the ancient Greeks. It is danced with 12 steps (which in some provinces are 10). Its rhythm is 7/8 and this makes it distinguishable from the other syrtos dances of similar type. The dancers perform steps with small jumps (semi-jump dance). It is danced throughout Greece (mainly the Peloponnese). It got its name not from the city of Kalamata but from the title of the song "kalamatianoulam". However, Baud Bovy supports that it comes from Roumeli. (webpage www.musipedia.gr and bibliography: Kalogeropoulos Takis, Dictionary of Greek music, Athens 2001).

¹² The word for word recording of the rhythmic values was conducted according to the rules of the Kodaly method.

fourth, the small ascent/descent of the third and small ascent of the sixth, which probably cause some doubts among the children. The rhythmic elements, which can cause concern to the children as to their recognition and performance, are the notes which are placed in the first timing (dotted quarter notes) and are linked to those (dotted eighth and quarter notes) in the second timing, as well as the eccentric character of the rhythm itself.

Taking into consideration, on the one hand, the instructions and indications¹³ of two musicologists and the two participating teachers and, on the other hand, the criteria behind the choice and structuring of the exercises, we can achieve the control and the comparison of the tonic exercises and modal music. These criteria will help us to compare the difficulty in recognising and coding of the exercises¹⁴ respectively, so as the level of difficulty to be compatible with the level of studies of the students, and the melodic, rhythmic and harmonic structure of all musical types.

We note that the exercise of the tonic music is, objectively, more difficult (compared to that of the Greek modal and demotic music) if we take into consideration that the level of knowledge of the students is quite high in the learning of tonic Western-European music, the rules of which the students are taught, and the modal Greek demotic music, which the students are not used to recognising or performing.

According to the above, the exercise of Greek modal demotic music¹⁵ seems to be simple. It is probable, however, not to say certain, that although the level of difficulty is, taking into account the analogies, similar, the errors of the Greek modal demotic music will be considerably more compared to that of the Western-European tonic music. From the procedure of coding the two exercises and variety of comparable types of errors will emerge

4. Description and classification of errors

¹³ The collection, for the pre-requisites of the research information was conducted according to the instructions of musicologists, as far as the choice of suggested exercises is concerned, and teachers, concerning the implementation of the research in the field of observation and the behaviour of the researcher towards the students.

¹⁴ This research was utilized with complete exercises and not small melodic sections so it can constitute part of a real educational act. The numbered presentation of the intervals of the exercises was proposed by professor Jean-Marc Chouvel.

¹⁵ The transfer of Greek modal music on the staff was necessary so we can compare, on the one hand, the structural elements of the exercises (Greek modal and Western-European tonic music) which cause errors, and, on the other hand, the students performance. The small intervals of Byzantine music could not be transferred on the staff and for this reason, we did not include a similar exercise in the present research.

The students' answers (during interview) are spontaneous and instinctive and reflect their personal method for the solution of the exercise. J.-P. Astolfi (Astolfi, 1997:48), linking his ideas with Bachelard (Bachelard, 1934:65) and Piaget (Piaget, 1961: 302), considers that the hindrances in perception and understanding, as far as the coding of the melody, rhythmic and harmonic line is concerned, derive from the mental depiction of the structural elements of the exercise. Concerning the teacher and his teaching, the error could constitute a useful tool, the same going for the student and his learning. The description, the categorizing and analysis of the errors, under specific circumstances and exercises, allows us to diagnose the evolution of learning and to produce later on his psychological profile, as is determined by J. Piaget (Piaget, 1976: 55), H. Wallon (Wallon, 1968: 101), L. Vygotsky (Vygotsky, 1985: 40), J. Bruner (Bruner, 1987:87).

Thus we realized two different qualitative and quantitative descriptions of melody-rhythmic errors. The first description focused on melodic (Sinclair, 1988: 129) (notes, intervals), rhythmic (bars, duration, intervals) and harmonic (Sinclair, 1988: 135,145,154) (degrees, descents) elements. Moreover, it concerns each student individually first and then the whole of students. The second one focuses on specifying the performances and their percentage during the two exercises and concerns the whole of students.

4.1 Results of research

4.2 Result Group I

The first group presents the results which concern the performance of each student concerning every category of structural elements (melodic, rhythmic and harmonic) of each exercise.

Errors in tonic music (Table 1)¹⁶:

1. Twenty out of thirty-six students (55%) made errors in the melody of the music dictation of the exercise.
2. Thirty out of thirty-six students (83%) made errors in all the categories (notes, intervals, degrees, descents) in the melody of music dictation.

The fact that the majority of students makes different types of errors, allows us to assume that, on the one hand the melodic and harmonic elements of the exercise cause difficulties in the procedure of recognition and coding in music dictation and, on the other hand,

¹⁶ A part of the comparative table is presented so as to show the way the errors are recorded.

their personal desires and motives, their level of education or generally any other aspect linked to the psychological profile are put to the test during this procedure.

Students		Music Dictation - Melody				Music Dictation - Rhythm			
		Notes 48	Intervals 47	Degrees 24	Descents 6	Notes 48	Intervals 47	Degrees 24	Descents 6
1 st	Number of errors	31/48	24/47	14/24	4/6	2/48	2/47	2/24	0/6
	%	65%	51%	58%	67%	4%	4%	8%	0%
2 nd	Number of errors	2/48	4/47	1/24	1/6	1/48	0/47	1/24	0/6
	%	4%	9%	4%	17%	2%	0%	4%	0%
3 rd	Number of errors	0/48	0/47	0/24	0/6	1/48	0/47	1/24	0/6
	%	0%	0%	0%	0%	2%	0%	4%	0%
4 th	Number of errors	24/48	19/47	9/24	4/6	5/48	7/47	4/24	1/6
	%	50%	40%	38%	67%	10%	15%	17%	17%
5 th	Number of errors	29/48	30/47	13/24	3/6	16/48	17/47	10/24	2/6
	%	60%	64%	54%	50%	33%	36%	42%	33%
6 th	Number of errors	3/48	7/47	3/24	1/6	8/48	10/47	5/24	1/6
	%	6%	15%	13%	17%	16%	21%	21%	17%

Table 1: Errors from the exercises of tonic music (sample)

We realize that twenty-one out of thirty-six students make a small number of rhythmic errors, in contrast to the rest who, apart from the fact that they make a large number of errors, these are observed in the same rhythmic sections.

The fact that the majority of students makes more or less the same type of errors (which sometime appear in marginally small percentages) allows us to assume that the specific rhythmic elements of the exercise cause difficulties in the realization of the music dictation of tonic music (exercise-rhythm- musical style). It must be noted that the exercise is characterized by the rhythm of (6/8) and by complicated¹⁷ rhythmic values.

Conclusively, we would say that the students make more errors in the coding of the melody rather than the coding of the rhythm of musical dictation. This final conclusion could mean that the

¹⁷ We characterize these rhythmic values as complex, considering the students' level of studies during the academic year.

processing of the melodic elements causes more difficulties to the students than that of the rhythmic during the tonic exercise (exercise: melody/rhythm).

Errors in demotic music (Table 2)¹⁸

1. Twenty-nine out of thirty-six students (80%) made errors in the melody of music dictation, of which one third of the students had negative percentage larger than that of the average of the results

2. Thirty out of thirty-six students (83%) made errors in the rhythm of music dictation, which also places in doubt the rhythmic structure of this type of the exercise (exercise: rhythm, musical style). One of the characteristic rhythmic elements which could cause errors is the constant presence of the representative rhythmic motives of the Greek Demotic music and the fact that our students are not familiar with their encoding.

We note that many of the students' performances deviate significantly with each other, in other words either they make many or minimal errors.

Students		Music Dictation - Melody				Music Dictation - Rhythm			
		Notes 53	Intervals 52	Degrees 28	Descents 5	Notes 53	Intervals 52	Degrees 28	Descents 5
1 st	Number of errors	44/53	44/52	24/28	3/5	9/53	14/52	8/28	2/5
	%	83%	85%	86%	60%	17%	27%	28%	40%
2 nd	Number of errors	0/53	0/52	0/28	0/5	4/53	8/52	4/28	2/5
	%	0%	0%	0%	0%	8%	15%	14%	40%
3 rd	Number of errors	0/53	0/52	0/28	0/5	0/53	0/52	0/28	0/5
	%	0%	0%	0%	0%	0%	0%	0%	0%
4 th	Number of errors	43/53	44/52	22/28	3/5	17/53	26/52	13/28	4/5
	%	81%	85%	79%	60%	32%	50%	45%	80%
5 th	Number of errors	16/53	16/52	6/28	2/5	15/53	18/52	9/28	2/5
	%	30%	31%	21%	40%	28%	35%	31%	40%
6 th	Number of errors	5/53	4/52	3/28	2/5	6/53	9/52	3/28	1/5
	%	9%	8%	11%	40%	11%	17%	10%	20%

Table 2: Errors from the demotic (modal) music exercises. (sample)

¹⁸ Part of the specific table is presented so as to show the recording of the errors.

As for the second establishment of the controversial performances, both the melodic and harmonic structure of this type of exercise is placed in doubt. Generally the negative results of the performances in this specific exercise may be attributed to the continuous presence of the alien notes.

4.3 Result Group II

The second group presents the results which concern the performance of the whole sample towards each category of structural elements (melodic, rhythmic and harmonic) of every exercise.

Errors in tonic and demotic music (table 3)

In Table 3¹⁹ we present the structural elements of both exercises in which students made the most errors and to be more specific: notes (C, D, E), intervals (+3⁺, -2⁺, +4⁺), rhythmic values (fourth, eighth), degrees (1st, 2nd, 4th), descents (5th, 1st) and number of bars. It concerns the types of those structural elements which cause the most problems compared to others during the dictation procedure (music dictation) while we not only pin-point at which bars of the exercise they are at but also to which melodic and rhythmic frame they belong.

Errors in tonic music

By examining the above table what emerges is that the tonic exercise is quite difficult, always considering the level of studies of the students and the level of difficulty of the demotic exercise. At this point we will summarize observations and hypotheses which emerge from table 3:

- This exercise contains four conversions in E minor and the relevant G major which are presented in the bars 2-3, 4-5, 6-7 and 8-9. Therefore we assume that the students would make errors when these four conversions appeared. This hypothesis is confirmed since the majority of the students make the specific errors especially in the category of intervals in the first (bars 2-3), third (bars 6-7) and fourth (bars 8-9) conversions, while in the degree category and descent category, they make the same

¹⁹ Descriptive table of Group II, pg.11. Similar tables of rhythmic errors. In both exercises, are found in the annex of the PhD thesis (Micha Paraskevi – “*Comparative study of the performance of Greek adolescents in music dictation (dictation) and solfege*”), pg. 692-707

errors during the first conversion (bars 2-3) in the melody of music dictation.

- The presence of the leading note (D major) of the E minor scale we assume that it causes difficulties because the students hear it not only in the medium but also in the higher area of the piano. This hypothesis is confirmed since the majority of the students make these specific errors in the category of notes and intervals during the second appearances of the leading note (bar 9) and in all the categories of structural elements (i.e. the notes, intervals, degrees and descents) during its second (bar 9) and its third (bar 11) appearance. As far as the rhythm of musical dictation is concerned, this phenomenon is not observed. We also note that not only the leading note but also its solution are not usually observed in demotic music.
- The intervals of $+7^+$ and -7^- , of -5^K , $+4^K$, $+3^+$, -3^+ and -3^- are assumed to cause difficulties to the students as far as the encoding of the exercise is concerned. The difficulty of recognizing this exercise is conscious because it contains these specific types of difficult intervals. In this way we balance the level of difficulty between this exercise and the next of the demotic music which the students are neither used to recognizing nor examining. This hypothesis is confirmed partially since majority of students make errors in -7^- , -5^H and -3^+ during the music dictation.
- The rhythmic elements, which we assume cause errors, are mainly the rhythm 6/8, the rhythmic phenomenon of syncopation (bars 10 and 12) and the interval of the 8th (last bar). This hypothesis is also confirmed since the majority of the students make errors in bars 10 and 12.

Errors in demotic music

From the study of table 2²⁰ findings, the following hypotheses and observations about the melody-rhythmic errors made in the demotic music exercise, emerge:

- There are groups of notes which create small, repeated melodic motives (for example, the motive **G-A-G** is repeated three times in the bars 1,3,6). When the above motive appears in the 2nd degree, (which is part of a perfect complex descent) the students make errors at a percentage of 33% (12/33 students) where is in the 4th degree at a percentage of 50% (20/36) of the students.

²⁰ Descriptive table of Result Group II

- The fact that the leading note and its solution do not appear in this exercise as in the previous, does not seem to create a recognition problem.
- The frequent appearance of the alien sounds in the music dictation (in the form of passing notes, embroideries, appoggiaturas or escape tones) we assume that it makes it harder for students and they make errors. This hypothesis is confirmed since the students made errors at a percentage which reaches 50% (17/36 students)
- The melodic line includes bars $+4^K$, $+3^-$, $+6^-$ and -3^- which we assume cause errors. This hypothesis is confirmed partially since the majority of the students at a percentage of 77% (28/36 students) makes errors in bars $+4^K$ and -3^- of music dictation.

MELODY AND RHYTHM/MUSIC DICTATION					
Number of students who made errors	Intervals	Rhythmic values	Degrees	Descent	Bars
20/36 students	$4^J (D-G)^+$	Quarter-dotted quarter notes	I-IV		5-6
	$6^J (D-B)^+$	Dotted eight-tenth	I-I		8
	$3^- (G-E)^-$	Sixteenth-eighth	II-V	perfect (V-I-I)	9

Table 3: Common errors per category (tonic and demotic music (melody/rhythm) exercises) of music dictation

- We assume that the rhythmic elements which cause concern and errors to the students focus mainly in the encoding of the unusual bar of 7/8, the notes (dotted quarter notes) placed in the first timing of the bar and connected with a constant link with those (dotted quarter notes) of the second timing in the bars 2, 4 and 8. This hypothesis is partially confirmed since the average of the students at a percentage of 50% (19/36 students) and the majority of students at a percentage which reaches 80% (29/36 students) make errors in bar 8, the melody and the rhythm and in bar 2 concerning the rhythm of music dictation.

4.4 Comparison of errors in tonic and demotic music

Based on the up to now analysis, two categories of errors emerge which we will compare with the aim of finding which category causes more errors and difficulties to the students. The first category concerns the melody-rhythmic elements of each exercise, and the second category concerns the different form and styles of the exercise (tonic and demotic). The focus on:

- a. the locating of common errors in common structure of different structural musical style
- b. the locality of common errors in the internal structure of the same or different music style

We determine, to begin with, the common errors, in the first category, as far as the internal structure of each exercise is concerned (melodic and rhythmic):

- The note a²¹, part of the space of +2⁺ (G – A), the degrees 2nd – 4th and the rhythmic values of the eighth-dotted quarter notes (bar 10) and the note B part of the space of 0²² (b–b), the degrees of the 4th – 1st, the perfect descent (5th – 1st) and the rhythmic values of the dotted quarter notes connected with the eighth (bar 12) to the melody and the rhythm of music dictation of the tonic music exercise. The encoding of rhythmic values may be that mental function which sparks off these types of errors.
- The same phenomenon is also observed in the note D, part of the space 0 (d–d), the 1st – 1st degrees and the rhythmic values of the dotted quarter notes connected with dotted eighth (bar 8) the melody and the rhythm of music dictation of the demotic music exercise.

We record, afterwards, the characteristics of the common errors, in the framework of the second category, as far as the different form and style of the previous two exercises (tonic and demotic) are concerned, directly connected with the elements of the internal structure of each exercise (melodic and rhythmic) of the previous parameters:

- They compose a major part of the spaces of 0 (in other words joined notes with constant link) to the degree that the students cannot manage to define exactly the rhythmic values and the number of respective rhythmic pulses.
- They belong to major degrees (1st, 4th, 5th). We can in this way assume that our students have not yet developed a complete harmonic conscious at this specific time. The above supposition also explains the fact that the encoding of quite a few notes, which are part of a descent, causes errors.
- The rhythmic phenomenon of syncopation is observed. For example, a dotted quarter connected with a constant link with

²¹ The melodic, rhythmic or harmonic elements of the text which were executed wrongly by the students are underlined in the text.

²² We are referring to the same note which extends from one bar to another attached to a constant link

an eighth. This phenomenon is observed not only in the tonic music exercise but also in the demotic music exercise.

4.5 Result Group III

The third group presents the results which concern the performance of the whole of the sample towards the bulk of the categories of structural elements (melodic, rhythmic and harmonic) of each exercise.

Errors in tonic and demotic music

Chart 1 presents the performance of the whole of the students concerning the bulk of the categories of structural elements of each exercise. These results derive from the results of the two previous groups. We can, in this way, perceive which type of the exercise and which category of structural elements produces most errors.

It seems therefore that the melodic elements are more difficult to be recognized in relation to the rhythmic, implying that the melody and the harmonic structure of the exercises cause the encoding errors. Taking into consideration, the already shaped and verified, from the results, assumptions, which refer to the psychological dimensions of the research, we assume that it is more difficult to recognize and encode the melodic elements of the exercises than those of the rhythmic.

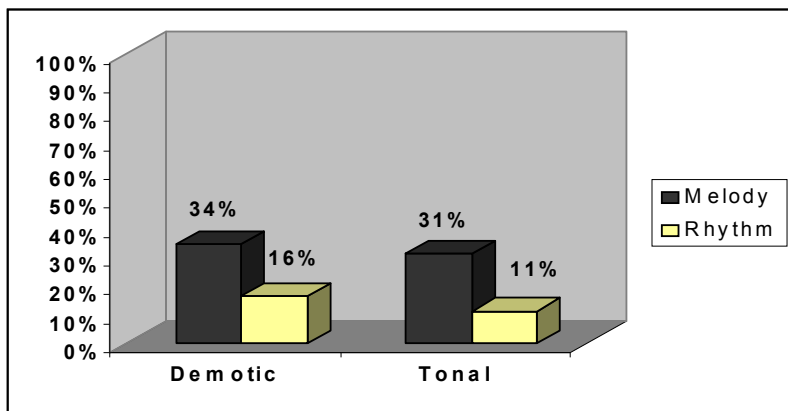


Chart 1: Percentage of errors in melody & rhythm²³

²³ Similar charts, which concern interval, degrees and descents in the annex of the Ph.D. thesis (Micha Paraskevi: *"Comparative study of Greek adolescence in music dictation (dictee) and solfege"*, pg. 709-717

The above supposition brings to light that:

1. There is possible confusion between the mental representation of the melodic line of the exercise – the mental inter-transferring of specific information – and the processes such as the auditioning, writing and generally producing the melody of the exercises, and

2. The difficult intervals do not make the process of recognizing and encoding in any type of exercise (tonic and model) easier.

Also, as seen from chart 1, the percentage of errors in the music melody recognition is almost the same, not only in model music but also in tonic music. This partially confirms the socio-cultural dimension of our research, which refers to the Cognitive battle which involves the understanding and performing of the two musical styles (tonic and model), but also the fact that students try to recognize with the same method these two styles, in other words consciously following the rules of harmony of tonic western-european music because simply this is the only procedure²⁴ they know. We therefore assume that academic education plays a significant role in the recognition and encoding of the exercises of tonic music, while the cultural experience reinforces the acoustic procedure in solving the exercises of model music. The above supposition could explain the identical results of the performance of the students during the encoding of both exercises and to provoke further research concerning the difficulties in consolidating and performing which is faced by students due to the Cognitive battle, which derives from the fact that the students are taught tonic music while they live with model music daily.

5. Conclusion

Taking into consideration the two hypotheses which were presented and analyzed in a theoretical background, we can assume the following:

According to the first hypothesis (**Hypothesis 1**) the systematic study of a type of music outweighs the music culture, causing supplementary difficulties to the students not only in consolidating and performing (the Cognitive battle phenomenon) but also in the mental functions of recognizing and encoding of exercises. Specifically, the effort to understand a tonic melody leads students to a momentous knowledge, a result of the systematic study of the Western-European music system (Cognitive domain). Although a similar attempt to recognize a demotic model melody is

²⁴ The studies focus mainly on the learning to tonic Western-European music

affected to a large extent by the cultural background, a result of a musical culture of a nation and their daily conscious and unconscious acoustic experiences (emotional domain)²⁵.

From the research which was conducted the first part of this hypothesis it is not verified from the respective error percentages which are observed during the execution of the exercises (melody of music dictation) of tonic and demotic music. On the contrary, the second part of the same hypothesis seems to be verified by the same percentage of errors. This fact is explicable partially, because the proposed exercises from their musical style present similar melodic and rhythmic characteristics, which cause errors, proving wrong the fact that the phenomenon of adjustment to Western-European culture is what finally causes it. We must also take into consideration the fact that the transferring of any exercise to the stave cannot be realized but only according to the rules of tonic harmony, since these are the only ones they have been taught²⁶.

The second part of this hypothesis is confirmed also by similarity of the structural elements (table 4) which cause difficulty and errors to both proposed exercises. This understanding could explain the reasons why an easy and familiar melody could cause similar and comparative between them performances by students with another, more difficult one, as they try to perform similar structural elements.

Musical style	Bar	Alien notes	Intervals	Tonality
Tonic	6/8	passing notes appoggiaturas delay	+6 ⁺ , -5 ^K , +6 ⁺ , +4 ^K , -5 ^H , +7 ^H	Modifications E-G-E-G-E
Demotic-model	7/8	passing notes, embroideries, appoggiaturas escape tone inlays	+6 ⁺ , +4 ^K	Soft way of D without its presence adduction

Table 4: Vital²⁷ errors in exercises in tonic and demotic music (melody/rhythm) in music dictation.

²⁵ We are referring to the socio-cultural dimension of the theoretical background

²⁶ We are referring to the transferring of the model demotic music exercise to the stave.

²⁷ Vital or fatal is what we named the errors which cause a number of other errors.

According to the second hypothesis (**Hypothesis 2**) the mental processes and procedures which are activated during the recognition and encoding of the melodic elements of an exercise in music dictation contain significant hurdles in performing it whether or not it belongs to tonic music (melody/rhythm).

According to the overall results of the research however, we observe that the melody and the rhythm of the exercise of demotic music²⁸ and the melody of the exercise of tonic music in music dictation, cause equally problems to the students in all the categories of structural elements (notes, intervals, degrees, descents). From our research we also conclude that the lack of experience and education of the students in these types of the exercises are necessary requirements so as to overcome the obstacles they face during the encoding of any exercise. We are obliged to specify, however, that Greek students do not practice adequately in Greek model music and mainly count on their cultural instinct (music heritage). The difficulties they face in performing these types of exercises may be attributed to the phenomenon of attempting to adjust students to the Western-European music culture.

The students perceive a melody through the prism of their emotional references and their experiences in tonic and model music, interwoven with their level of studies and always according to their musical and cultural traditions. The same method is not always followed necessarily by all students. The execution of their errors which occur during both exercises, tonic and model music, shows us the procedure of understanding the structural elements is different in tonic to model music. In both types of exercises, a necessary requirement is systematic effort and high level of studies of the students towards melody, rhythm and harmony.

References

Books

Astolfi J.-P. (1997). *L'erreur, un outil pour enseigner*, (*The error: the tool for teachers*), Paris: Les Editions Sociales Francaises (ESF).

Bachelard G. (1934), *La formation de l'esprit scientifique - Contribution | une psychanalyse de la connaissance objective*, Paris : Librairie philosophique J. Vrin.

²⁸ Taking into consideration that the tonic music exercise was more difficult to perform than the model music exercise.

Blanchet A. ; Gotman A. (1992). *L'enquete et ses methods: L'entretien (The systematic research and its methods: the interview)*, Paris : Nathan .

Bruner J. (1987), *Comment les enfants apprennent | parler*, Paris : Retz.

Descomps, P. (1999). *La dynamique de l'erreur dans les apprentissages (The Dynamic of errors in learning)*, Paris: Hachette Education.

Frances, R. (1984). *La perception de la musique (The perception of music)*. Paris: Vrin

Giannelos, D. (1996). *La musique bysantine – Le chant eclesiastique grec so notation et sa pratique actuelle (Byzantine music – The Greek Church hymn, its notability and practice)*, Paris : L'Harmattan.

Mauss, M. (1989). *Sociologie et anthropologie (Sociology and Anthropology)*, Vendôme : Presses Universitaires de France.

Naugle K. D. (2002). *Worldview – The history of a concept*, Cambridge - U.K. : William B. Eerdmans (Publishing Company).

Piaget J. (1961), *Les mécanismes perceptifs (modèles probabilistes, analyse génétique, relations avec l'intelligence)*, Paris : Presses Universitaires de France.

Piaget J. (1976), *Le langage et la pensée chez l'enfant – Etudes sur la logique de l'enfant*, Neuchatel (Suisse) – Paris : Delachaux et Niestlé.

Robert A. D. ; Bouillaguet A. (1997). *L'analyse de contenu (Analysis of content)*, Paris: Presses Universitaires de France.

Sinclair H. (1988). *La production de notations chez le jeune enfant - Langage, nombres, rythmes et mélodies (The performance of notation from the small child – language, numbers, rhythm and melodies)*, Paris: Presses Universitaires de France (PUF).

Singly, F. (1992). *L'enquete et ses methods: Le questionnaire (The systematic research and its methods: the questionnaire)*, Paris: Nathan.

Szanyi, E. (1976). *Quelques aspects de la melodie de Zoltan Kodaly – Application de ses principes a l'education musicale (Some opinions of the Zoltan Kodaly melody – Application of the principles of the method in musical education)*, Budapest: Corvina (éditions).

Vygotsky S. L. (1985), *Pensée et langage*, France: Messidor / Editions sociales.

Wallon H. (1968), *L'évolution psychologique de l'enfant*, Paris: Armand Colin.

Articles

Cuddy Lola L. ; Upitis R. Aural perception, *Handbook of research on music teaching and learning*, New York , 21 (1992) 333-343.

Cummings-Persellin D. Responses to rhythm patterns when presented to children through auditory, visual, and kinaesthetic modalities. *Journal of Research in Music Education*, United States, vol. 40, n°4, (1992) 306-315.

Selosse M.P. ; Mail-Lard C. (1982) . La méthode Kodaly (The Kodaly method). *L'Education Musicale (Journal: music education)*. Paris, 287 (1982) 229-230.