Education and Science

Vol 44 (2019) No 200 333-354

Effects of The Lexical Rhythm Learning Strategy on Music Teacher Candidates' Success in Rhythm Dictation

Hamit Yokuş [1]

Abstract

Rhythm is a fundamental subject in music education. In general, voluntary, and occupational education between pre-school and higher education, rhythm instruction is included in music education either through instrument training or music theory. This study determines the effects of the lexical rhythm learning strategy on music teacher candidates' success in rhythm dictation. It also presents the study group's views and opinions about the strategies they used in learning rhythm. The study group (n=20) consisted of first year music teacher candidates registered in the Musical Hearing, Reading, and Writing II course in the Music Education Programme in the Department of Fine Arts Education at the Muğla Sıtkı Koçman University, Faculty of Education during the 2016-2017 academic year. The research used quantitative and qualitative methods. "The Rhythm Dictation Test" was used to test the research hypotheses. In addition, an interview form was administered at the end of both the pre-test and post-test to ascertain subjects' strategies of writing dictates and their perception of the difficulty of the rhythm dictation. A significant difference was found between experimental and control groups in their total rhythm dictation scores, in favour of the experimental group. The lexical rhythm learning strategy was adopted by the entire experimental group, it was effective in the perception of rhythm patterns, and it made dictation easier. As a result, effectiveness of the lexical rhythm learning strategy in dictating compound rhythm patterns was highlighted.

Keywords

Music education
Rhythmic perception
Rhythmic memory
Rhythm learning strategies
Compound metres

Article Info

Received: 07.24.2018
Accepted: 08.28.2019
Online Published: 10.30.2019

DOI: 10.15390/EB.2019.8060

[1] Muğla Sıtkı Koçman University, Faculty of Education, Department of Fine Arts Education, Turkey, hamityokus@mu.edu.tr

Introduction

Many strategies exist for recalling musical knowledge, such as relating musical knowledge to already existing information or coding knowledge in a meaningful way. Throughout the process of music and instrument training, these strategies help individuals to form or create a virtual link between similar and different musical knowledge. The more far-reaching, systematic, and multi-dimensional knowledge coding is during the process of learning, the easier it will be to recall this knowledge. However, if the knowledge is coded within a limited scope and situated in long-term memory, it can only be recalled within this limited scope (Yokuş & Yokuş, 2010). Learning strategies used for coding knowledge through meaningful links support memory. Memory-supporting strategies, which strengthen coding in the long-term memory, are assessed under the two headings of creating images and creating verbal symbols (Senemoğlu, 2005). Using this strategy, the number of associations for recalling knowledge is diversified and increased to form relations such as unity, similarity, or contrast among associations. An effective association occurs as ideas recall each other.

Music is an art of temporality and it has time-related dimensions. All functions about timing, such as tempo, accent, metre, note cluster, and tempo cluster determine the rhythmic characteristics of music (Say, 1992). Rhythm is also a central feature of the internal structure (melody, rhythm, and harmony) of a musical work (Say, 2010). Thus, rhythm is the vocal accord arising from the regular repetition of stress, length, vocal characteristics, or rests (TDK, 2017). The phenomenon of rhythm determines the movement and characteristic of music, and thus, it requires correct perception and explanation.

Perceiving rhythm is one of the difficulties in the recognition and performance of musical notation and material (Stetson, 1923). Rhythm is a matter of sensitive timing; therefore, it includes many features that are difficult to analyse (Colles, 1932). It is one of the most essential subjects of music courses at all levels. Within the scope of general, voluntary, and occupational education between pre-school and higher education, rhythm instruction is included in music education either through instrument training or music theory.

Many music instructors have tried various methods for rhythm instruction (*explained below*). Increasing the effectiveness of rhythm learning is the attempt to present the most effective learning strategy to successfully perceive and express rhythms. Within this context, identifying the various rhythm learning strategies and how these strategies should be analysed is significant. In this study, methods used for learning rhythms are investigated within the framework of learning strategies.

Methods for learning rhythm associate certain rhythm patterns with the rhythm of verbal language using letters, syllables, words, or sentences (Aydoğan, 2007; Curwen, 1892; Dalby, 2005; Ester, 2005; Gordon, 2009; Hoffman, Pelto, & White, 1996; Özgür & Aydoğan, 2015). In this context, methods used for learning rhythm are attempts to create verbal symbols. A form of mental association is developed when the duration and stress of speech and rhythm are identified and systematically sequenced. In this way, a supportive strategy for remembering and perceiving rhythm patterns is portrayed.

In this study, strategies for the instruction of rhythm patterns are examined within the framework of memory-supporting strategies under a new title "Rhythm Learning Strategies". Within this framework, strategies are analysed under the following three sub-titles: (1) Syllabic Rhythm Learning Strategy, (2) Lexical Rhythm Learning Strategy, and (3) Mixed Rhythm Learning Strategy.

Rhythm Learning Strategies

Each rhythm learning strategy may be used at every stage of music and instrument training to meet different objectives and learning needs. These strategies are categorised and assessed under the following headings.

Syllabic Rhythm Learning Strategy: This strategy is a sequential approach. It pairs syllables, which have no particular meaning, with rhythm patterns within the framework of an identified note unit, its segments, and sub-segments. This strategy may be adopted and used for different note units. When syllables included in rhythm patterns are brought together, they do not constitute a meaningful word in terms of verbal language. Some of the methods used within this framework are given below (Figure 1).

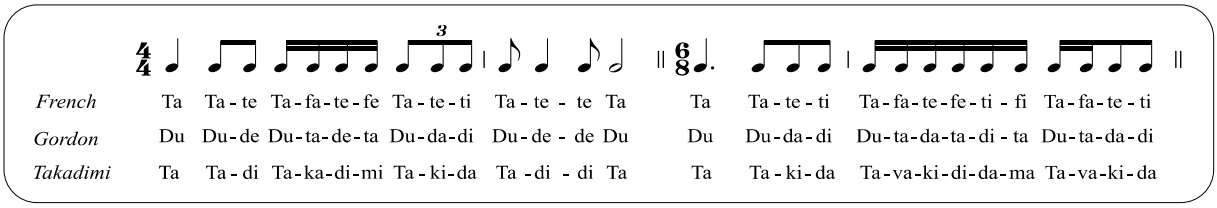


Figure 1. Examples of Methods Used in The Syllabic Rhythm Learning Strategy

Music instructors from different cultures may adopt and draw on the syllabic rhythm learning strategy by utilising rhythmic expression forms from their own cultures. For example, in Turkish music education, expressions of Turkish art music such as "dü-me-te-ke" (Aydoğan, 2007) or "gü-mü-dü-mü" (Özgür & Aydoğan, 2015) are utilised for four sixteenth notes.

Lexical Rhythm Learning Strategy: In this strategy, rhythm patterns are paired with words that have the appropriate duration, stress, and number of syllables. Each word is used for a different rhythm pattern. Words used for rhythm patterns with duplex units may be used in the same way for rhythm patterns with triple units. Words used for each rhythm pattern have meanings in verbal language. These may be words describing rhythm patterns or they may involve fruit, city, or animal names. Figure 2 provides examples of this method:

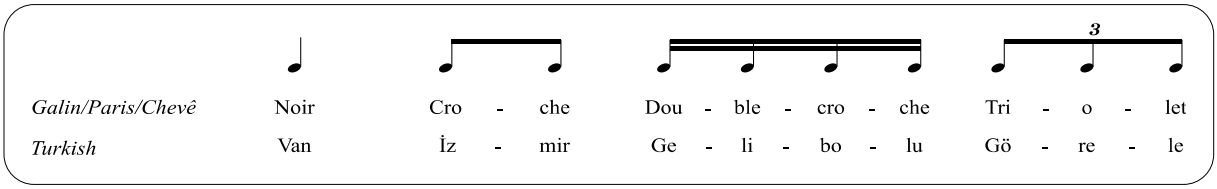


Figure 2. Examples of Methods Used in The Lexical Rhythm Learning Strategy

In this study, the researcher re-arranged the lexical rhythm learning method, which is used widely in simple metres in Turkish music education, to adapt it to compound metres. The re-arranged method was administered to the experimental group (Appendix-1).

Mixed Rhythm Learning Strategy: Mixed strategies for rhythm learning can be analysed under four sub-titles: (1) Time-focused rhythm learning strategy, (2) Syllabic-lexical rhythm learning strategy, (3) Lexical-sentential rhythm learning strategy, and (4) Sentential rhythm learning strategy.

Time-focused rhythm learning strategy: Methods used in this strategy are based on the temporal cycle of metre. In order to show strong and light durations, either durations throughout the metre are expressed in numerical values or initial letters of syllables are sequenced. Under sub-segments of each beat, syllables or words are used sequentially for a certain rhythm pattern. Some of the methods used within this scope are shown in Figure 3.

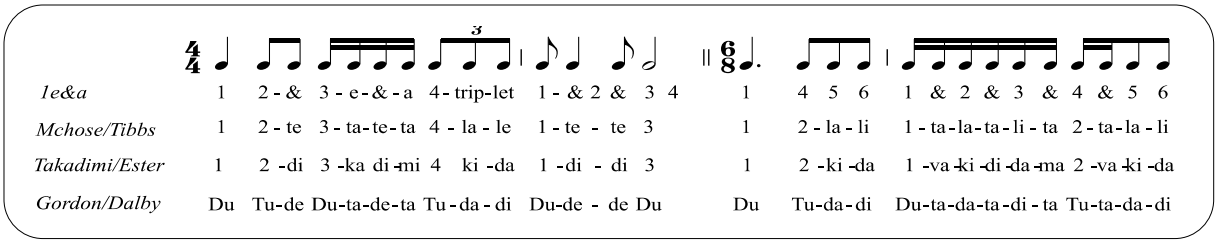


Figure 3. Examples of Methods Used in The Time-Focused Strategy for Learning Rhythm

Time-focused syllabic methods may be used by adapting the original or other syllabic methods similar to the "1e&a" method. For instance, "takadimi" may be modified as "1kadimi" (Ester, 2005), and "Dutadeta-Dutadeta" may be used as "Dutadeta-Tutadeta" (Dalby, 2005).

Syllabic-lexical rhythm learning strategy: A mixed approach uses syllables or words based on the duration of rhythm patterns. Figure 4 presents an example of this method.

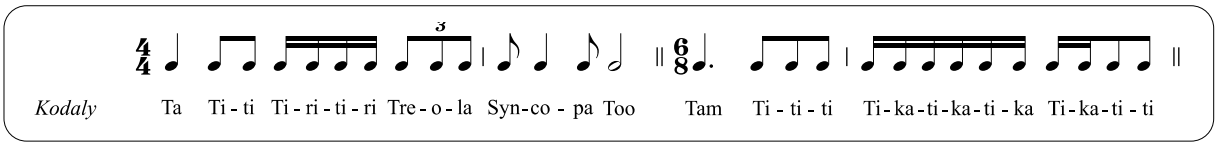


Figure 4. An Example of a Method Used in The Syllabic-Lexical Rhythm Learning Strategy

Lexical-sentential rhythm learning strategy: This strategy associates different words with each of the rhythm patterns and generates a meaningful verbal sentence out of the rhythm pattern. Its difference from the lexical rhythm learning strategy is that when words related to rhythm patterns are brought together, meaningful sentences emerge. This strategy may be helpful in recalling a set of rhythm patterns (more than one note form) as a whole by making use of sentences that have a particular meaning. Even if the location of rhythm patterns changes, a regular or an irregular sentence arises. This strategy is especially useful in pre-school music education. An example of this method is presented in Figure 5.

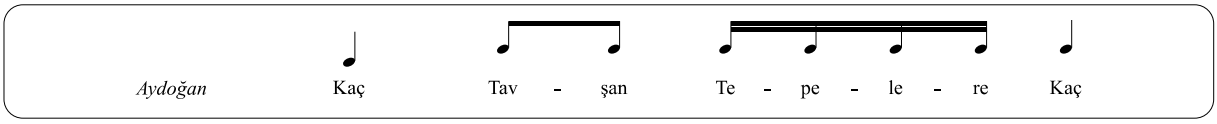


Figure 5. An Example of a Method Used in The Lexical-Sentential Rhythm Learning Strategy

The sentential rhythm learning strategy: This strategy associates poems or proverbs with rhythm patterns and forms a meaningful verbal sentence out of this rhythm pattern. Here, rhythm patterns are not assessed on their own right; instead, they are approached holistically in themes or sentences. When the locations of rhythm patterns are altered, the meaning of the sentence may change. Therefore, a verbal pairing is needed for each theme or sentence with a different poem or proverb. Figure 6 shows an example of this method.

Figure 6. An example of a Method Used in The Sentimental Rhythm Learning Strategy

Through the methods categorised and exemplified above, music instructors aim to develop students' skills in practicing (singing, playing, hearing, and writing) rhythm patterns in different metres (simple, compound, and mixed) at different difficulty levels.

Ester (2006, as cited in Ester, Scheib, & Inks 2006) found that many elementary school teachers used the Kodaly syllabic method in rhythm instruction, whereas others preferred Orff's rhythm instruction method. Some administrators of chamber music chose the "1e&a" method (time-focused strategy for learning rhythm). Ester's questionnaire findings showed that students were trained with more than one system and they learned different approaches from different teachers in the same class. Teachers preferred the easier Kodaly method for beginners, whereas for advanced levels (with complex rhythm patterns) they chose the "1e&a" method. In another study, Sarıkaya (2013) examined the usage of rhythm instruction methods in institutions providing graduate level occupational musical education. The "Tafatefe" and "conventional" rhythm instruction methods are the most well-known methods in rhythmic literacy at universities. In addition, there are experimental studies on rhythm learning or teaching carried out at the elementary, secondary, or high school levels (Bader, 2014; Colley, 1984; Fust, 2006; Palmer, 1976). Looking at the relevant scholarly literature, we found no experimental research on rhythm learning or teaching practices of music teacher candidates at the graduate level.

While each rhythm learning strategy may be used at all levels of music education, many include rhythm learning/teaching processes for beginners. Thus, the methods in question apply the basic understanding used in simple metres by re-arranging and adapting them to compound and mixed metres. Each method may obtain a certain degree of success in the instruction of relatively simple rhythm patterns. It is also possible that perceiving and remembering rhythm patterns becomes harder as their difficulty levels increase. In light of these ideas, the question of which strategic method is most effective in perceiving and remembering more complex rhythm patterns became important. In this study, effectiveness of the widely used syllabic rhythm learning strategy was tested against the lexical rhythm learning strategy.

Drawing on the aforementioned ideas, the research problem of this study is: "What are the effects of learning rhythm patterns in compound metres through the lexical rhythm learning strategy on music teacher candidates' success in rhythm dictation?" The study identified the effects of using the lexical rhythm learning strategy in learning rhythm patterns in compound metres on music teacher candidates' success in rhythm dictation in the course Musical Reading, Hearing, and Writing II, offered in the programme of Music Education at the Department of Fine Arts Education, Faculty of Education. It presented the study group's ideas and opinions about the strategies they used in rhythm learning. The following hypotheses are listed for the quantitative dimension of the research:

1. There is no difference between experimental and control groups' pre-test scores on the rhythm dictation test.
2. There is a difference between pre-test and post-test scores of the experimental group on the rhythm dictation test.
3. There is a difference between pre-test and post-test scores of the control group on the rhythm dictation test.
4. There is a significant difference between experimental and control groups in their post-test scores on the rhythm dictation test.

The following questions were investigated for the qualitative dimension of the research:

1. What is the strategy the control group followed in writing rhythm dictation during the pre-test and post-test?
2. What is the strategy the experimental group followed in writing rhythm dictation during the pre-test and post-test?

3. What are the control group's ideas perception of the difficulty of the rhythm dictation test used for the pre-test and post-test?
4. What are the experimental group's ideas perception of the difficulty of the rhythm dictation test used for the pre-test and post-test?

Limitations

The study was limited to:

1. First year students registered in the Musical Hearing, Reading, and Writing II course in the programme of Music Education in the Department of Fine Arts Education at the Muğla Sıtkı Koçman University, Faculty of Education during the 2016-2017 academic year,
2. Compound metres of 6/8,
3. The French rhythm syllabic method of the syllabic rhythm learning strategy,
4. The lexical rhythm learning method, which the researcher developed for compound metres within the framework of the lexical rhythm learning strategy,
5. The dotted quarter note,
6. The sixteenth note as the smallest note form.

Method

Research Model

In this study, the experimental model was used to determine the effects of learning rhythm patterns in compound metres through the lexical rhythm learning strategy on music teacher candidates' success in rhythm dictation. It was designed according to the (random assignment with matching) experimental design model with pre-test, post-test, and a control group.

In addition, two open-ended questions prepared by the researcher were asked at the end of the pre-test and post-test to understand subjects' strategies in writing dictations and their perception of the difficulty of the rhythm dictation. Therefore, the research was carried out using both quantitative and qualitative methods.

Study Group

The study group (n=20) consisted of first year music teacher candidates registered in the Musical Hearing, Reading, and Writing II course in the Music Education programme in the Department of Fine Arts Education, the Faculty of Education at the Muğla Sıtkı Koçman University during the 2016-2017 academic year. They participated voluntarily in this study.

All participants graduated from music departments at fine arts high schools. They were accepted to the undergraduate program through an aptitude test. They passed the first stage of the exam by scoring at least 50 (fifty) points on the dictation test, which included simple metres, and moved on to the next levels of the (three-staged) test. Therefore, students started their undergraduate programme with prior basic knowledge and experience about melody, tone, and writing rhythm dictation. In addition, they had already taken the Musical Hearing, Reading, and Writing I course before the Spring Term, when this study was initiated. Thus, they were expected to have sufficient knowledge about these subject matters. In the Musical Hearing, Reading, and Writing I course (fall term of the 2016-2017 academic year), the researcher taught students rhythm patterns with simple metres through both the syllabic and lexical rhythm learning strategies. Additionally, participant students were not instructed or trained in melody and rhythm dictation with compound metres in their Musical Hearing, Reading, and Writing I or II courses until the research took place.

The "Rhythm Dictation Test" was administered as a pre-test before the experiment and a post-test after the experiment. The pre-test results were assessed in order to determine whether study groups were equal in terms of the identified variables. Experimental (n = 10) and control (n = 10) groups were formed after examining students' equivalence. Measurements were made before and after the

experiment for both groups. The experimental design (design with pretest-posttest control group) used in this research is formalised in Table 1.

Table 1. Research Design

Groups	Pre-test	Application	Post-test
Experimental Group	Rhythm Dictation Test	Practicing rhythm patterns in triple units through the lexical rhythm learning strategy	Rhythm Dictation Test
Control Group	Rhythm Dictation Test	Practicing rhythm patterns in triple units through the syllabic rhythm learning strategy	Rhythm Dictation Test

Table 2 presents the distribution of students in the study group by gender.

Table 2. Distribution of Students in The Study Group by Gender

Gender	Experimental (n)	Control (n)	f	%
Female	7	7	14	70
Male	3	3	6	30
Total	10	10	20	100

The numerical distribution of female and male students in the experimental and control groups were equal.

Pre-test results of experimental and control groups were compared to investigate their equivalence in writing rhythm dictation before the administration of the experiment. As the distribution of the groups was normal, their equivalence was examined with the Independent Samples T-Test. Accordingly, the mean of total pre-test scores of the experimental group rhythm dictation test was $\bar{x}$=11.80 with a standard deviation (ss) = 8.50. The mean of total pre-test scores of the control group on the rhythm dictation test was $\bar{x}$= 12.80 (ss= 8.22). No statistically significant difference was found between the rhythm dictation test total pre-test scores of the groups [$t_{(18)}$=268, p>.05]. According to this result, experimental and control groups are equivalent in terms of their prior knowledge assessed by total pre-test scores on the rhythm dictation test.

Data Collection Tools

The Rhythm Dictation Test was used to test research hypotheses. In addition, two open-ended questions, which the researcher prepared in an interview form, were asked at the end of the pre-test and post-test in order to present subjects' strategies of writing dictation and their ideas about the difficulty of rhythm dictation. Measurement tools used to obtain data are explained below.

The Rhythm Dictation Test: This test determined the sufficiency of various rhythm patterns that could be formed in triple units in 6/8 metre. The test had three sub-scales involving different rhythm patterns. In total, it includes 48 rhythm patterns. The score for each correct rhythm pattern was "2", except for the 9th-16th rhythm patterns of the second sub-scale whereby the score was "2.5" points. The score was "1" when the note sequence was correct, but the grouping of rhythm patterns was wrong. The maximum score obtainable from the test was "100" and the minimum was "0".

The aim of the first sub-scale is to test the sufficiency in dictating rhythm patterns, consisting of dotted quarter, quarter, eighth, and sixteenth notes. In this sub-scale, one can use 16 rhythm patterns in the 6/8 metre. The number of rhythm patterns that can be formed out of the above-mentioned note forms

in units of three is 13. Of 16 rhythm patterns, 13 are different from each other. The remaining three rhythms are unique on their own, although they repeat one of the 13 rhythms.

The aim of the second sub-scale is to test the sufficiency in dictating rhythm patterns, consisting of dotted eighth note and (equal or unequal) syncopation. In this sub-scale, one can use 16 rhythm patterns in 6/8 metre. These 16 rhythm patterns consist of dotted-eighth notes or syncopation. Each rhythm pattern is designed as "2.5" points, because 9th-16th rhythm patterns are relatively more difficult.

The aim of the third sub-scale is to test the sufficiency in dictation of rhythm patterns that involves the mixed usage of rhythm patterns with simple or dotted eight notes and syncopation from the first and second sub-scales.

The test was formulated at three levels: The first sub-scale was designed as easy, the second was difficult, and the third was a medium difficulty level. The metronome speed of all sub-scales on the test was "40" (dotted quarter note=40).

Cronbach's Alpha confidence analysis was used for calculating the internal consistency of the 48-item rhythm dictation test. The following values were obtained as a result of the analysis: first sub-scale: α=.94, second sub-scale: α=.86, third sub-scale: α=.92, and total test: α=.97. Thus, expert opinion on the validity of the rhythm dictation test was sufficient.

Interview Form: An interview form was administered at the end of pre-test and post-test to present subjects' methods in writing dictations and their perception about the difficulty level of dictation and to compare their strategic thinking techniques. This form, which was prepared by the researcher, included two questions:

1. What are the ways you used in writing dictations?
2. What do you think about the difficulty of dictations?

After the pre-test and post-test rhythm dictation, students were asked these questions to reveal their ideas about the application.

Application

The researcher instructed the study subjects on rhythm patterns in triple units within the scope of compound metres. This instruction covered two course hours (each lecture was 50 minutes). The experimental group was trained using the "lexical rhythm learning strategy", whereas the control group was instructed using the "syllabic rhythm learning strategy" (in French, the ta-fa-te-fe method).

In these courses, students were trained about rhythm patterns in line with the strategy chosen for their group. During the first hour, compound metres were introduced to each group on the same day at different times. Rhythm patterns and rhythmic possibilities were introduced. The strategies and their applications were explained through the direct teaching method. Once the rhythm learning strategy was described in line with the aim of the course and this study, students were given a chance to apply these strategies. In this way, it captured whether students understood the strategy or not, and students were given feedback accordingly. Students were given one week to apply the strategies they learned in class. A second lecture was organised for both groups to assess success, make up for incomplete information, correct mistakes, and give necessary clues for learning rhythm. Throughout these courses, rhythm patterns were repeated and students were asked to practice regularly in their individual studies by using the relevant strategy. Students were told that they could study either individually or collectively with other students in the same group. They were warned that students from different groups should not work together. After one week, during the second lecture period, rhythm patterns were repeated, tested auditorially, and dictated to the experimental and control groups both in verbal and written formats.

Assessment: Both groups were collected into one class for the pre-test and post-test rhythm dictations. First, each rhythm dictation was played from the beginning to the end twice on the piano (in the sol[1] tone). Second, each two metres containing four rhythm patterns were repeated twice. After each repetition, 30 seconds of break was given. Once dictations were completed, rhythm dictations were repeated entirely twice for the students to make any revisions. After the rhythm dictation, student responses were assessed by the researcher together with a teaching fellow specialised in music education.

Data Analysis

Quantitative data was categorised both in terms of independent variables and according to experimental and control groups. Data concerning each independent variable was divided in two experimental and control groups. In order to analyze the pre-test and post-test data obtained from the experimental and control groups, the normal distribution characteristics of the scores were examined. For this purpose, Shapiro-Wilk (SW) values of the scores were examined. Table 3 shows the SW test results.

Table 3. Shapiro-Wilk Test Significance Level Results

Group	n	Test	Statistic value	p
Experimental	10	Pre-test	.884	.146
		Post-test	.978	.952
Control	10	Pre-test	.902	.232
		Post-test	.881	.133

When the Shapiro-Wilk test result is examined, it is seen that the calculated p-value for the pre-test and post-test scores of the experimental and control groups is greater than α=.05. Accordingly, it was decided that parametric statistical techniques should be used in the study since the scores did not show significant (excessive) deviation from the normal distribution at this level of significance.

In line with the above results, paired t-test was used for the analysis of the pre-test and post-test data obtained from the experimental and control groups. In this way, the progress achieved by both groups was tracked. The Independent Samples T-Test was used to determine the equivalence of experimental and control groups before the experiment and the last stage these groups reached after the experiment. It was also utilised for carrying out the one-way test on the pre-test and post-test. As a result, the group that reached the highest level after the experiment was found.

Qualitative data was analysed using the descriptive analysis technique, one of the analysis techniques from qualitative research methods. Data obtained within this framework was compared using the views of the experimental and control groups. These were further converted into tables and evaluated accordingly.

Results

In this section, quantitative and qualitative dimensions of the research are outlined, converted into tables, and interpreted.

Findings and Comments concerning the Quantitative Dimension of the Research

Here, data obtained on the basis of research hypotheses are outlined, converted into tables, and interpreted.

Findings and Comments About Hypothesis 1: Findings concerning the rhythm dictation pre-test scores of the experimental and control groups are presented in Table 4.

Table 4. Results of The Independent Samples t-Test According to Groups' Pre-Test Scores on The Rhythm Dictation Test

Rhythm dictation test	Group	n	$\bar{x}$	ss	sd	t	p
Sub-scale 1	Experimental	10	8.00	5.31	18	.406	.690
	Control	10	7.10	4.58			
Sub-scale 2	Experimental	10	.40	.52	18	.463	.649
	Control	10	.60	1.26			
Sub-scale 3	Experimental	10	3.40	3.47	18	.900	.380
	Control	10	5.10	4.86			
Test Total	Experimental	10	11.80	8.50	18	.268	.792
	Control	10	12.80	8.22			

According to the Independent Samples t-Test, which was carried out in line with the rhythm dictation pre-test scores, no significant difference was detected between groups [$t_{(18)}$=268, p>.05]. According to this result, it could be said that the experimental and control groups are not different in terms of pre-test scores of rhythm dictation test.

Findings and Comments About Hypothesis 2: Findings concerning the rhythm dictation pre-test and post-test scores of the experimental group are presented in Table 5.

Table 5. Results of The Paired Sampes t-Test on The Experimental Group's Pre-Test and Post-Test Scores in Rhythm Dictation Test

Rhythm dictation test	Test	n	$\bar{x}$	ss	sd	t	p
Sub-scale 1	Pre-test	10	8.00	5.31	9	9.422	.000
	Post-test	10	25.50	3.75			
Sub-scale 2	Pre-test	10	.40	.52	9	10.904	.000
	Post-test	10	14.15	3.98			
Sub-scale 3	Pre-test	10	3.40	3.47	9	10.811	.000
	Post-test	10	22.40	3.98			
Test Total	Pre-test	10	11.80	8.50	9	12.333	.000
	Post-test	10	62.05	9.58			

According to the Paired Sampes t-Test results, there was a significant difference between the experimental group's pre-test and post-test scores in rhythm dictation [$t_{(9)}$=12.333, p<.01]. Before the application, the average of the first sub-scale scores of the rhythm dictation test of the experimental group was 8.00, the average of the second sub-scale scores was .40, the average of the third sub-scale scores was 3.40, and the total test average score was 11.80. After the application, the average of the first sub-scale scores increased to 25.50, the second sub-scale scores to 14.15, the third sub-scale scores to 22.40 and the total test scores to 62.05. These results show that the lexical rhythm learning strategy was effective in the correct dictation and perception of rhythm patterns in triple units.

Findings and Comments About Hypothesis 3: Findings concerning the rhythm dictation pre-test and post-test scores of the contol group are presented in Table 6.

Table 6. Results of The Paired Sampes t-Test on The Control Group's Pre-Test and Post-Test Scores in Rhythm Dictation

Rhythm dictation test	Test	n	$\overline{x}$	ss	sd	t	p
Sub-scale 1	Pre-test	10	7.10	4.58	9	2.497	.034
	Post-test	10	18.10	11.89			
Sub-scale 2	Pre-test	10	.60	1.26	9	2.031	.073
	Post-test	10	5.30	6.80			
Sub-scale 3	Pre-test	10	5.10	4.86	9	3.143	.012
	Post-test	10	14.10	9.15			
Test Total	Pre-test	10	12.80	8.22	9	2.876	.018
	Post-test	10	37.50	25.85			

There was a significant difference between the rhythm dictation test pre-test and post-test scores of the control group in terms of first sub-scale, third sub-scale and total test scores [$t_{(9)}$=2.876, p<.05]. However, there was no significant difference in the total scores of the second sub-scale *(p>.05).*

Before the application, the average of the first sub-scale scores of the rhythm dictation test of the control group was 7.10, the average of the third sub-scale scores was 5.10, and the total test average score was 12.80. After the application, the average of the first sub-scale scores increased to 18.10, the third sub-scale scores to 14.10 and the total test scores to 37.50. In other words, the syllabic learning strategy in rhythm dictation is effective in the perception and dictation of rhythm patterns at easy and intermediary levels. However, this strategy is not sufficiently effective in the perception and dictation of rhythm patterns that contain stops and syncopation.

Findings and Comments About Hypothesis 4: Findings concerning experimental and control groups' rhythm dictation post-test scores are presented in Table 7.

Table 7. Results of the Independent Samples t-Test According to Groups' Post-Test Scores on The Rhythm Dictation Test

Rhythm dictation test	Group	n	$\overline{x}$	ss	sd	t	p
Sub-scale 1	Experimental	10	25.50	3.75	18	1.877	.077
	Control	10	18.10	11.89			
Sub-scale 2	Experimental	10	14.15	3.98	18	3.552	.002
	Control	10	5.30	6.80			
Sub-scale 3	Experimental	10	22.40	3.98	18	2.632	.017
	Control	10	14.10	9.15			
Test total	Experimental	10	62.05	9.58	18	2.816	.011
	Control	10	37.50	25.85			

The Independent Samples t-Test was used to compare the groups' total post-test scores in rhythm dictation. According to the results of this test, there was a significant difference for the second and third sub-scales as well as the total test scores [$t_{(18)}$=2.816, p<.05]. The mean of the second sub-scale scores of the experimental group rhythm dictation test was 14.15 and the average of the second sub-scale scores of the control group was 5.30; the average of the third sub-scale scores of the experimental group was 22.40 and the average of the second sub-scale scores of the control group was 14.10. In the test total, the average of experimental group scores was 62.05 and the average of control group scores was 37.50. According to this result, the scores of the second and third sub-scales and test total scores of

the experimental group were higher than the control group. However, although the average of the experimental group was higher than the total scores of the first sub-scale compared to the control group, no statistically significant difference was found *(p>.05).* The reason for this finding could be the easier and plainer rhythm patterns on the first sub-scale could be effectively written using either methodology. This finding shows that the lexical rhythm learning strategy is more effective in the perception and dictation of rhythm patterns in triple units.

Findings and Comments concerning the Qualitative Dimension of the Research

In this section, qualitative data are outlined, converted into tables, and interpreted. Findings concerning the ways the control group viewed rhythm dictation during the pre-test and post-test are presented in Table 8.

Table 8. Control Group's Views on The Ways They Followed in Rhythm Dictation during The Pre-Test and Post-Test

Pre-test		**Total score**	**Post-test**		**Total score**
C1*	I first tried to listen to the entire dictation. Later, when the first two metres were played, I tried to find the metre number and I wrote down what I could remember.	22	C1	The strategy I used made me very comfortable. I was able to distinguish rhythm patterns easily. There were only few instances which I missed.	72
C2	I did not pursue any particular path. I even thought of writing every note in its half value.	9	C2	I believe that the strategy I used made writing easier. I think I was able to hear the rhythms better. Yet, when I did not use this strategy, I made up my own strategy. I tried to adapt it to Gelibolu, Tatvan. I think this was even more effective.	72
C3	I did not follow a specific path.	0	C3	The strategy I used enabled me to write the dictations more easily.	52
C4	I did not follow any way.	9	C4	The Ta-fa-te-fe-ti-fi French system confused me. Finding the rhythm was difficult, because I have never practiced compound metres with this system before.	52
C5	First, I tried to understand the rhythms.	23	C5	I used the Ta-fa-te-fe-ti-fi strategy. Instead of timing the rhythms, I directly started writing the patterns I heard. This was easier and more helpful.	49
C6	I focused on hearing the rhythms such as Ankara, İzmir, and alike.	12	C6	The strategy I used was more successful than the one I used in the first test. I believe this time I heard the rhythms easier. I made some mistakes, but I believe that I will do better by practicing more with this strategy.	38

Table 8. Continued

Pre-test		Total score	Post-test		Total score
C7	I counted the notes and tried to distribute them according to time units.	7	C7	I cannot say that the strategy I used comforted me completely. However, I am sure that it will make me more comfortable if I use this strategy for some time.	16
C8	While writing the dictation, I visualised the drum and tried to write accordingly.	11	C8	I believe that I did not understand it or study sufficiently.	6
C9	First, I wrote down the rhythms I heard. When it was played for the second time, I designated the number of metres and did the scaling. I grouped rhythm patterns such as Ankara and Karaman in mind, and I tried to write the dictation accordingly.	26	C9	I tried to recognise the rhythms, but I could not do it. I was not able to keep them in my mind, because the rhythms were too long.	10
C10	When the rhythm was played for the first time, I focused only on the scale number. Later, I listened to the rhythm patterns. I coded all of them in Ankara, İzmir, etc. Still, I could not finish it.	9	C10	Using this strategy for compound metres confused me.	8

**C: Control group.*

In Table 8 shows the control group did not have a specific way of writing rhythm dictations on the pre-test. Only three students (C6, C9, and C10) tried to use the lexical rhythm learning strategy (by only making use of the rhythm patterns in simple metres). On the post-test, students attempted the test using the syllabic rhythm learning strategy as instructed in class.

The differences between pre-test and post-test scores signify that there was a distinct increase in the scores of students who thought that the syllabic rhythm learning strategy made the perception of rhythm patterns easier (C1, C2, C3, C5, and C6). However, there was no significant increase. In fact, there was a decrease in the scores of students who noted having difficulty in perceiving rhythm patterns through the syllabic rhythm learning strategy (C7, C8, C9, and C10). Although C4's scores increased, she had difficulty in perceiving rhythm patterns using the syllabic rhythm learning strategy. Also, C2 tended to use paired patterns of the lexical rhythm learning strategy when having trouble.

As a result, despite the increase in scores of a sub-group, the overall analysis shows that the syllabic rhythm learning strategy was not effective in the perception of complex rhythm patterns.

Findings concerning the ways the experimental group viewed rhythm dictation during the pre-test and post-test are presented in Table 9.

Table 9. Experimental Group's Views on The Ways They Followed in Rhythm Dictation During Pre-Test and Post-Test

Group	Pre-test	Total score	Post-test	Total score
E1*	I made regular rhythms smaller.	2	Since it was derived from already known rhymes, I felt more comfortable. I already knew the root rhythms. Since the new patterns were only additions, I was able to keep them in my mind better.	78
E2	Firstly, I marked the initial note, which signified the rhythm pattern, in a linear format on the stave. (i.e., / // : Ankara)	24	In the pre-test, I was not able to write or find the number of metres. I think, I was better in the post-test test, thanks to this memorable practice.	73
E3	While the dictation was being played, I placed the rhythms and tried to bring them together.	3	The strategy I used comforted me. I think I would be more productive if I practiced it more. It was a very good strategy.	70.5
E4	I tried to concentrate on each of the two played metres. When I could not grasp the two together, I focused on only one metre. I tried to think about the syncopations.	14	The strategy I used was very helpful. I think I was better than my first test. I believe that this strategy will be increasingly more effective.	64.5
E5	When the dictation was played for the first time, I tried to find the number of metres. Later, I wrote down the patterns in line with the number of metres I found.	18	Using your method, patterns became quickly visible in my mind.	61
E6	I am only trying to focus. I am trying to listen the rhythm. But, once my concentration fades away, I cannot write it anymore.	3	In the previous test, I was not even able to move my pencil. Yet, in this test I see that I can really write something. I think I will progress more in time by using this method.	57
E7	I always write the dictation by counting the rhythms in my mind. I try to keep them in my mind. Sometimes, I might miss even one metre. While writing, names of the rhythms cross my mind all the time.	22	I feel more comfortable this time. The strategy we used gave me comfort. I started to hear and write rhythms better. I will improve if I continue this practice.	60.5

Table 9. Continued

Group	Pre-test	Total score	Post-test	Total score
E8	When the dictation was played for the first time, I wrote down everything I could. I continued writing, when it was played for the second time. When it was played for the last time, I tried to fill in the incomplete sections.	18	This practice is very effective. It made things easier. Since the knowledge is fresh, my mind still drifts back to older information. It will become more effective when I can keep it in my memory better.	56
E9	First, I found the number of metres. Second, I found the rhythm patterns. I used this way.	4	This strategy was certainly more effective. I was better compared to our previous practice.	53
E10	First, I tried to find the metre and time units. I could not find them. I tried to find rhythms by giving them names. But, since I could not find the metre and time units, I was stuck.	10	The strategy I used was very helpful. I heard most of the rhythms very easily. I heard rhythm patterns directly by using the strategy I learned (for example, "Gelibolulum, Ankaralı mı?"). In this way, I could hear more. If there are incomplete sections, it is because of a minor problem with my timing. I wrote the others quite easily.	47

**E: Experimental group.*

The experimental group did not have a specific rhythm learning strategy for writing rhythm dictation on the pre-test. One student (E2) tried to employ the lexical rhythm learning strategy (by trying to use rhythm patterns of this strategy, only in simple metres). On the post-test, all students used the lexical rhythm learning strategy. All students claimed that the lexical rhythm learning strategy was very effective in writing dictation. They explained that this strategy was particularly effective in making rhythms easier and patterns more comprehensible.

Findings about the control group's views and opinions on the difficulty of the rhythm dictation test used for the pre-test and post-test are presented in Table 10.

Table 10. Control Group's Views and Opinions on The Difficulty of The Rhythm Dictation Test Used for The Pre-Test and Post-Test

Group	Pre-test	Post-test
C1	Each of the three dictations had a unique difficulty. The problem I could not solve was mostly the number of metres.	The first dictation was easier. In the second dictation, I had difficulty in catching up. In terms of difficulty, the third dictation was in the middle of the previous two.
C2	I have never seen a dictation like this before in my life. I could not do anything. Everything was difficult.	I think, all dictations were pretty easy. There were no challenging rhythm patterns.

Table 10. Continued

Group	Pre-test	Post-test
C3	Dictations were easy. I could not succeed, because we did not have any experience.	The first dictation was easy. The strategy I used made my task easier. I found the second dictation difficult. I need to practice more. The third dictation was easier than the second one.
C4	I was confused. I could not grasp the rhythm patterns entirely.	The first rhythm dictation was easy. I had difficulty in the second and third dictations, because they had dotted rhythms.
C5	It was difficult either because of the rhythms or the number of metres. It was more difficult for me, because I could not continue once I was stuck with one metre.	I found the dictations easier than my previous practice. I could not write some of the metres, because I missed a part of the second dictation. Since I thought in terms of the syllabic method, I could write the dictation very easily.
C6	The second and third ones were difficult, while the first one was at a medium difficulty level.	The first and the third dictations were doable to a certain extent. The second one was more difficult.
C7	Either all of them were difficult or I panicked a lot and could not write anything.	In my system, we choose the windows with the light on in a building constructed entirely by square windows.
C8	The first dictation was easy, while others were difficult.	For me, all dictations were difficult.
C9	I did not have much difficulty in the first dictation, because it did not have dotted links and challenging rhythm patterns. But, I found the other two dictations difficult because they had links and syncopations. I could not do the scaling. I could not group the rhythms, since they were too complicated for me.	I had too much difficulty.
C10	All dictations were difficult. I could not complete any of them. In the second time, I could not find the sections where I stopped. I was surprised.	If I had really grasped the patterns we learned in class, I could have written more easily. They were not that difficult.

Students in the control group perceived the first dictation of the pre-test and post-test "easy", the second dictation "difficult", and the third one "intermediary". While the control group found the post-test easier than the pre-test, they still had difficulty on the post-test. The pre-test and post-test used the same rhythm dictation test and students' perceptions of difficulty did not change significantly.

Findings about the experimental group's views and opinions on the difficulty of the rhythm dictation test used for the pre-test and post-test are presented in Table 11.

Table 11. Experimental Group's Views and Opinions on The Difficulty of The Rhythm Dictation Test Used on The Pre-Test and Post-Test

Group	Pre-test	Post-test
E1	If the dictation was just like I had imagined, then it was not difficult. Yet, if it was not like the way I had imagined, then it means I understood nothing.	It was at a medium difficulty level. The first dictation was easy, the second one was difficult, and the third was the least difficult one.

Table 11. Continued

Group	Pre-test	Post-test
E2	I found the first one easy. But there was something different, when I followed the beats. I do not think anyone got it correct.	While the pre-test was very difficult, I found this dictation much easier. I finished almost the entire test.
E3	Overall, it was complicated and difficult. It was confusing.	I did not have too much difficulty. It was easy.
E4	Dictations were overall difficult. It took time to comprehend them.	This dictation was easier. Strategic thinking showed how doable the dictation was.
E5	The omission of rests made the dictation easier. Still, grasping the number of metres was difficult.	It was easy.
E6	For me, it was difficult. I already had difficulty in writing dictations. I could not concentrate properly.	I found the other test very difficult. But I do not think this test was difficult. For the first time, I said I can do this and I did my best.
E7	The first dictation was easy. I did not have difficulty in the second one either. The third one was not that easy.	The first dictation was not that difficult. I did not have any difficulty. The second dictation was the hardest. The third dictation was not that easy, but I still tried to do something.
E8	The first dictation was easy, the second one was difficult, and the third one was at a medium difficulty level. In fact, it was not extremely difficult. But, I have not written dictations for a long time, so I had some difficulty.	The first dictation was easy. The second one was a bit more difficult and the third one was easy. Still, it was not easier than the previous test.
E9	For me, all three dictations were difficult. I primarily could not understand the rhythm patterns. I thought that there were notes of 32. I could not focus. As a result, I could not write it.	The first dictation was easier. I think that the second dictation was a bit difficult for me. But I still tried. The third and first dictations were similar.
E10	The third dictation seemed easier at first glance. But, I could not write it. I could not find the number and unit of metres. I panicked a lot. It was all complicated for me.	I almost had no difficulty in the first dictation. Those were easier rhythms. The second and the third dictations were a bit more challenging. Still, it was not extremely difficult. I wrote the dictations easily.

Looking at tables 10 and 11, there is a parallel between control and experimental groups' views on the difficulty of the rhythm dictation test. When compared to the control group's view, students in the experimental group found the post-test easier. Students found the rhythm dictation test easier when they used the lexical rhythm learning strategy.

Discussion and Conclusion

The Gestalt approach, one of the cognitive learning theories, investigates the nature of the learning process. Accordingly, learning refers to an individual's perception of a situation and the change in her interpretation (Bilge, 2009). Effective musical learning involves organising, structuring, interpreting, and integrating musical stimuli in line with perception and memory processes. Rhythm learning-teaching strategies are among the basic functions of music education. In the relevant scholarly literature, there are various methods and strategies supporting the perception and memory for rhythm learning (Bebeau, 1982; Colles, 1932; Colley, 1984; Hoffman et al., 1996; Sarıkaya, 2013; Stetson, 1923). In this study, these strategies used for learning rhythms (Rhythm Learning Strategies) are addressed under three sub-titles: *(1) Syllabic rhythm learning strategy, (2) Lexical rhythm learning strategy* and *(3) Mixed rhythm learning strategy.* This study examined the effects of the method for the lexical rhythm learning strategy, which was formulated by the researcher for learning rhythm patterns in compound metres based on the music teacher candidates' success in rhythm dictation. In addition, music teacher candidates' views on the usage of the rhythm learning strategies were investigated.

In order to test the hypotheses formulated for the quantitative dimension of the research, the researcher instructed the experimental group on the lexical rhythm learning strategy and instructed the control group on the syllabic rhythm learning strategy. A significant difference was found between the experimental and control group's total rhythm dictation scores, in favour of the experimental group. In this way, the effectiveness of lexical rhythm learning strategy was demonstrated.

Within the framework of the first hypothesis, it was found that the experimental and control groups were equal before the application of the research. Findings obtained for the second hypothesis indicated that the lexical rhythm learning strategy was effective in the correct dictation and perception of rhythm patterns in triple units.

In the third hypothesis, there was statistically significant difference (first, third and test total) between the pre-test and post-test scores of the control group on the rhythm dictation test. According to the total scores of the second sub-scale, there was no significant difference *(p>.05).* The syllabic system was effective for the perception and dictation of rhythm patterns of triple units at easy and medium difficulty levels. However, this system was not effective enough for the perception and dictation of rhythm patterns that involved dot and syncopation.

According to the total post-test scores on the rhythm dictation test, within the framework of the fourth hypothesis, a significant difference was found in the second and third sub-scales and in total test scores in favour of the experimental group *(p<.05).* According to the total scores on the first sub-scale, the experimental group's mean was higher than that of the control group. However, there was no statistically significant difference *(p>.05),* because rhythm patterns of the first sub-scale were easier. This finding illustrates that the lexical rhythm learning strategy is more effective in the perception and dictation of complex rhythm patterns in triple units.

There are memory-supporting systems successful in the introduction of rhythms to children. These systems enable children to hear and write rhythms. They develop the skills in children necessary for hearing rhythms internally. These include word-chant systems similar to Orff-Shulwerk's speech rhythms and Gordon's syllabic system (Campbell & Scott Kassner, 1995). Among the relevant scholarly literature on experimental research, the study by Colley (1984) compared different rhythm learning strategies to develop rhythm literacy in state schools with second and third year students (N=160). He

investigated the effects of three different syllabic systems (Gordon, Kodaly, and Word) on developing students' skills in rhythmic notation reading. In this study, 12 rhythmic patterns including notes in twos, fours, eights, and sixteens were used. These patterns were used in random combinations of 4/4 and 6/8 metres. Subjects were tested in terms of perception, writing, and clapping hands with these patterns. The "Word" method improved children's performance and skills in writing dictation better than the two other systems (Gordon, Kodaly), which used single syllables. Although Colley's study was carried out with students of different age groups and at the level of basic music education, its findings are similar to ours.

There are also other experimental studies comparing different methods that obtained different results. For example, Fust (2006) grouped wooden wind instrument four students in 2 groups of 2 and compared the Takadimi method with the conventional American "1e&a" rhythm learning method. He found that there was no significant difference between the two methods in terms of student success. In fact, he observed that students had similar mistakes in counting and playing the rhythms. The reason underlying this finding might be that both rhythm learning strategies are syllabic approaches. In another study, Palmer (1976) carried out a training program for fourth year students in three elementary schools. This program contrasted the Gordon method, where numbers are used to define metre beats in reading rhythms, with the Kodaly approach. He determined that the Gordon approach was more effective than the Kodaly approach in improving students' musical skills and success in reading rhythms. Bader (2014) carried out research on two choirs at the high school level. He showed that music education was more meaningful and effective when choir members' decoding skills were supported by rhythm learning strategies. This finding confirms the argument that using rhythm learning strategies positively influences success.

According to the qualitative findings of this study, the control group did not pursue a specific way in writing rhythm dictations on the pre-test. Three students (C6, C9, and C10) tried to use the lexical rhythm learning strategy, whereas on the post-test students used the syllabic rhythm learning strategy they were instructed in class. Despite the increase in the scores of a section of the control group, overall the syllabic rhythm learning strategy was not sufficient for students in perceiving rhythm patterns. In contrast, the experimental group used a particular strategy in writing rhythm dictation during the pre-test. A student (E2) tried to utilise the lexical rhythm learning strategy on the pre-test, whereas on the post-test all students used the lexical rhythm learning strategy, which they were taught by the researcher. All students noted that the lexical rhythm learning strategy was particularly effective in perceiving rhythm patterns. Accordingly, the strategy made the perception of rhythm patterns easier. Considering the differences between pre-test and post-test scores, the lexical rhythm learning strategy created a remarkable increase in the scores of all students.

Concerning experimental and control groups' views on the difficulty of the rhythm dictation test on the pre-test and post-test, students in the control group found the first dictation "easy", the second "difficult", and the third a "medium" difficulty level. Students in the control group highlighted that although the post-test was easier than the pre-test, dictation on the post-test was still difficult. Both the pre-test and post-test were the same rhythm dictation test. The reason why the control group found the dictation difficult could be that in the syllabic rhythm learning strategy one needs to associate the syllables in the sub-divisions of rhythm patterns. For example, for a rhythm pattern in triple units composed of dotted eighth, sixteenth, and eighth notes when "ta fe ti" syllables are used, "fa-te" are included between the syllables of "ta" and "fe". Students in the experimental group had parallel views on the difficulty of the rhythm dictation test. Yet, compared to the control group, students in the

experimental group expressed that the post-test was easier. The lexical rhythm learning strategy made the rhythm dictation test easier for the students in the experimental group.

In summary, the lexical rhythm learning strategy was adopted by the entire experimental group, it was more effective in the perception of rhythm patterns, and it made the dictation test easier. Thus, the lexical rhythm learning strategy is a very effective and referable strategy, which can be used in remembering and perceiving rhythm patterns within the scope of compound metres in triple units.

References

Aydoğan, S. (2007). *Oynayarak eğlenerek müzik dilini öğreniyoruz*. Ankara: Arkadaş Yayınevi.

Bader, K. A. (2014). *The effects of the takadimi rhythm method and folk songs on the sight-reading abilities of two high school choirs* (Unpublished master's thesis). Faculty of the Department of Music Silver Lake College Manitowoc.

Bebeau, M. J. (1982). Effects of traditional and simplified methods of rhythm-reading instruction. Journal of *Research in Music Eudcation, 30*(2), 107-119.

Bilge, F. (2009). Gestalt ve insancıl yaklaşımda öğrenme. In B. Yeşilyaprak (Ed.), *Eğitim psikolojisi* (pp. 244-274). Ankara: Pegem Akademi.

Campbell, P. S., & Scott Kassner, C. (1995). Rhythm and the child. In *Music in Childhood* (pp. 73-105). Schirmer Books, USA.

Colles, M. (1932). The teaching of rhythm. *The Musical Times, 73*(1074), 719-720.

Colley, B. D. (1984). *A comparison of syllabic methods for improving rhythmic literacy* (Unpublished master's thesis). Faculty of Graduate Studies and Research of McGill University, Montreal.

Curwen, J. (1892). The standart course of lessons and exercises in the tonic sol-fa method of teaching music (10th ed.). London: J. Curwen & Sons Ltd. Retrieved from http://ia802609.us.archive.org/8/items/10thedstandardco00curwuoft/10thestandardco00curwuoft.pdf

Dalby, B. (2005). Toward an effective pedagogy for teaching rhythm: Gordon and beyond. *Music Educators Journal, September, 92*(1), 54-60.

Ester, D. (2005). *Ball state university music education and takadimi.* Retrieved from http://www.michaeljthom.com/eportfolio/mused355/takadimioverview.pdf

Ester, D. P., Scheib, J. W., & Inks, K. J. (2006). Takadimi: A rhythm system for all ages. *Music Educators Journal, 93*(2), 60-65.

Fust, T. R. (2006). *Syllable systems: four students' experiences in learning rhythm* (Master's thesis). School of Music University of Louisville, Kentucky

Gordon, E. E. (2009). *Rhythm: contrasting the implications of audiation and notation* (2nd ed.). Chicago: GIA Publications.

Hoffman, R., Pelto, W., & White, J. W. (1996). Takadimi: A beat-oriented system of rhythm pedagogy. *Journal of Music Theory Pedagogy, 10*, 7-30.

Palmer, M. (1976). Relative effectiveness of two approaches to rhythm reading for fourth-grade students. *Journal of Research in Music Education, 24*(3), 110-118.

Sarıkaya, R. (2013). *Lisans düzeyinde mesleki müzik eğitimi veren kurumlarda ritim öğretim yöntemlerinin kullanılma durumları*. (Unpublished master's thesis). Gazi University, Institute of Educational Sciences, Ankara.

Say, A. (1992). Ritim. In *Müzik ansiklopedisi* (Vol. 4, p. 1090). Ankara: Başkent Yayınevi.

Say, A. (2010). Ritim. In *Müzik ansiklopedisi* (Vol. 3, p. 158). Ankara: Sözkesen Matbaası.

Senemoğlu, N. (2005). *Gelişim öğrenme ve öğretim* (12th ed.). Ankara: Yorum Matbaası.

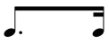
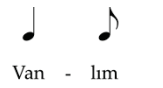
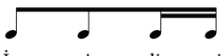
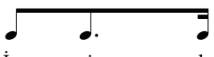
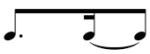
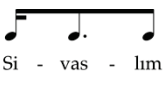
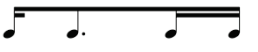
Stetson, R. H. (1923). The teaching of rhythm. *The Musical Quarterly, 9*(2), 181-190.

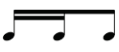
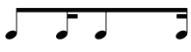
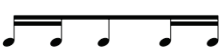
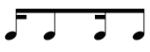
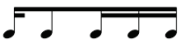
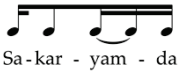
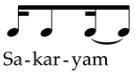
TDK. (2017). Ritim. *Büyük Türkçe sözlük.* Retrieved from http://www.tdk.gov.tr/index.php?option=com_bts&arama=kelime&guid=TDK.GTS.5968db1f5e7ef2.41918832

Özgür, Ü., & Aydoğan, S. (2015). *Müziksel işitme okuma eğitimi ve kuram* (7th ed.). Ankara: Arkadaş Yayınevi.

Yokuş, H., & Yokuş, T. (2010). *Müzik ve çalgı öğrenimi için strateji rehberi I: Öğrenme stratejileri*. Ankara: Pegem Akademi.

Appendix 1

Rhythm teaching method used in Turkish music education	 Van	 İz - mir	 Bur - sa	 Si - vas
Adaptation of the method to triple units	 Van - lım  Van lı - mı?  Van - da  Van	 İz - mir - lim  İz - mir li - mi?  İz - mir - de  İz - mir	 Bur - sa - lım  Bur - sa lı - mı?  Bur - sam - da  Bur - sam	 Si - vas - lım  Si - vas lı - mı?  Si - vas - ta  Si - vas

Continue.	 An - ka - ra	 Ka - ra - man	 Ge - li - bo - lu	 Sa - kar - ya
Continue.	 An - ka - ra - lım  An - ka - ra lı - mı?  An - ka - ram - da  An - ka - ram	 Ka - ra - man - lım  Ka - ra - man lı - mı?  Ka - ra - man - da  Ka - ra - man	 Ge - li - bo - lu - lum  Ge - li - bo - lu lu - mu?  Ge - li - bo - lum - da  Ge - li - bo - lum	 Sa - kar - ya - lım  Sa - kar - ya lı - mı?  Sa - kar - yam - da  Sa - kar - yam