Şen, E. (2022). An evaluation on musicograms and their applications in Türkiye. *International Online Journal of Education and Teaching (IOJET), 9*(4). 1632-1647.

Received : 04.04.2022
Revised version received : 30.07.2022
Accepted : 03.08.2022

AN EVALUATION ON MUSICOGRAMS AND THEIR APPLICATIONS IN TÜRKİYE[1]

Research article

Ebru Şen
Sinop University, Faculty of Education, Sinop, Türkiye
ebrusen@sinop.edu.tr

Biodata:

Ebru Şen is an Assistant Professor at Sinop University, Faculty of Education, Department of Fine Arts Education. Her areas of interest include music education, violin education, music listening skills and visual music education materials.

Copyright © 2014 by International Online Journal of Education and Teaching (IOJET). ISSN: 2148-225X.

Material published and so copyrighted may not be published elsewhere without written permission of IOJET.

[1] This paper is an expanded version of the oral presentation presented at the "International Symposium on Child" held in Sinop/Türkiye between 16-18 May 2022.

AN EVALUATION ON MUSICOGRAMS AND THEIR APPLICATIONS IN TÜRKİYE

Ebru Şen

ebrusen@sinop.edu.tr

Abstract

Musicogram is described as a graphical record of musical works and is one of visual music teaching tools developed by Jos Wuytack on the theory of active music listening, and designed particularly for children who do not have knowledge of musical notes. Musicograms are widely used in many countries and has been frequently addressed in the international scientific studies recently; however, there is a limited number of academic studies in Turkey on musicograms, yet there are applied studies on the use of these visual schemes in music teaching. The purpose of this study is to evaluate the musicogram applications in Türkiye within a certain theoretical framework. In this scope, musicogram studies and application examples with various names in different languages were reached through a web survey. In this way, the most popular names given to the musicogram applications in Türkiye were detected and a total of 227 musicogram applications that were uploaded to the Turkish pages on YouTube platform between the years 2000-2022 were chosen as sample. The musicogram applications were discussed in terms of various elements of music (such as melody, rhythm, tempo, expression, etc.) by means of document review, and were evaluated in line with Wuytack's active music learning approach. The findings indicated that it is necessary to increase the number of studies in order to ensure recognition of musicogram and similar methods, techniques, and materials, which express visual presentation of music not only by the music educators, but also by preschool teachers and class teachers in Türkiye, and in order to conduct correct applications.

Keywords: musicogram, active music listening, music education

1. Introduction

While hearing is a passive and inevitable action, listening is a conscious and active action that is performed in order to find out the intention of what is heard by means of hearing (M. Rubio, Fornari, & Mendes, 2017, p. 4). Music listening has an important role in the basis of music learning. In active listening in music, hearing activity develops in parallel with the other activities and thus action, movement, and participation are required for a listener. There are activities adapted to all ages, which can be offered for this purpose, and it is possible to mention about musicograms as one of the active materials in the field of active listening (Delegido & Villodre, 2019, p. 3; Nikolov, 2016, p. 24). The musicogram technique, which is developed upon the theory of active music listening, is a graphical representation of the basic elements of a musical narrative or structure such as rhythm, melody, timbre, musical instrument, and orchestration, through colors or images. In musicogram, traditional music notation is represented through simpler and more accessible representations (such as drawings, colors, geometrical shapes, symbols, codes, etc.) for listeners who do not have any knowledge of musical notes, and it is aimed to ensure easier perception of the main musical elements in the work. Such representation bases on the psychological principles of perception. For example, colors indicate the similarities and contrasts between musical themes while a horizontal line

represents meter, and musical instrument symbols represent the musical instruments used to perform the music (Coroiu, 2021, p. 103; Wuytack & Boal-Palheiros, 2009, p. 47).

Visual perception is used in order to develop musical perception in the active listening approach set forth by Jos Wuytack, a Belgian composer and music educator at the same time, basing on his own experiences during the early 1970s. This active music listening method, in which visual perception supports auditory perception, bases on three main principles (Graça Boal-Palheiros & Bourscheidt, 2011, p. 324; Graça Boal-Palheiros & Wuytack, 2006, p. 1266; Wuytack & Boal-Palheiros, 2009, p. 46):

- Listener being physically and mentally active, performing music in relation with the elements in music before the music listening activity.
- Listener being focused on music during the music listening activity and recognizing the previously performed music.
- Analysis of musical form through the associations of listener with a symbolic visual representation of the integrity of the music.

In the direction of these three main principles, active music listening occurs in two phases. The first phase is named introduction to music, where children firstly meet musical example. They acquaint themselves with certain musical compositions by singing a song, dancing, or playing it with a musical instrument. Later, the phase of listening to music by means of musicogram starts. At this moment, children simultaneously follow a musicogram while listening to music (Graça Boal-Palheiros & Wuytack, 2006, p. 1266; Homone, 2020, p. 11; Wuytack & Boal-Palheiros, 2009, p. 47).

Wuytack put excessive emphasis on the fact that a work or musical composition should at least be listened three times during the active music listening studies conducted with students. During the action of listening for the first time, they get a general impression of the music and enjoy for having been acquainted with the previously learned musical themes. During the action of listening for the second time, a general analytic musical work is performed. Students focus their attentions on certain sections in line with the guidance of teacher on the big musicogram. Teacher does not make any comments at this stage. And during the action of third listening, students follow the music that indicates themes on the small musicograms in their hands (Wuytack & Boal-Palheiros, 2009, p. 49).

Some research (Graça Boal-Palheiros & Wuytack, 2006; Júnior & Raymundo, 2020; Wuytack & Boal-Palheiros, 2009) show that musicogram, which is a visual strategy, contributes to children perceiving, understanding, and memorizing music better. Students who are in contact with these materials in music classes are encouraged to be creative. By this means, they become successful in acquiring various behaviors and skills in the field of performing music together and singing-playing according to the structure of music, being concentrated on music for a long period of time. Children enjoy much more owing to this, developing a positive attitude towards the music class. Some research conducted on preschool period (Gluschankof, 2018; Serrano Chover, 2020) reveal the effectiveness of musicograms not only in music teaching, but also in multilevel activities based on multiple intelligence towards other fields. It is observed that the research that show the usability of musicograms in language teaching (Marrama, 2014; Mercedes, 2016; Ojeda-Gurrea, 2020) contain such kind of musical activities, within the scope of innovative and technological methodology applications based on active learning approaches.

Musicograms develop further in time, upon acquiring new properties within technological possibilities (Delegido & Villodre, 2019, p. 4). In this line, it can be seen that musicograms can transform into musicomovigrams, which are in video format, through the use of current

knowledge and sources of communication technology. In the case of musicomovigrams, the music listened progresses with an interesting visual support in synchronization. Some of them are in the format of a video that does not contain any movement, some of them contain mixed symbols, pictures, and traditional music notation, while some consist of animations or movements that show what will happen next (Botella Nicolás, Hurtado Soler, & Ramos Ahijado, 2019, p. 115; Júnior & Raymundo, 2020, p. 11; M. Rubio et al., 2017, p. 2). In this subject, the example of interactive musicogram in a gamified environment (Pérez, n.d.), which was also mentioned in a study of Pérez (2018, p. 201), is worth examining.

Today, studies (Botella Nicolás, & Marín Liébana, 2016; J. C. M. Rubio, Rubio, & Ariño, 2009) to develop musicograms by supporting them with new technological developments continue, and at the same time, effectiveness of musicograms and musicomovigrams is examined in such studies. It is observed that in the studies addressing musicogram applications developed and used on interactive whiteboards (M. C. Rubio, 2016, 2018; M. Rubio et al., 2017), different free software such as eAdventure, Audacity, KDEnLive, and GIMP is utilized.

Musicograms can be qualified as materials that can easily be accessed in web environment as they contain visual and animated images. Musicogram applications on the web offer the researchers and educators with a rich variety of sources. Educators who are eager to work with musicograms can have the opportunity to design their studies by examining these applications. However, it is also possible that sample applications have methods and contents contrary to the philosophical basis of the musicogram technique. This can contradict with the fundamental principles of the active learning approach and show that musicograms are misused in terms of music teaching. In addition to this, it can also be possible that misuses are acknowledged particularly by those who are not specialists in the field of music education and are transferred into educational environments. Thus, it is considered necessary to reach correct information about musicograms, which are quite popular in recent years and are recognized by implementers upon their spread through sample applications, and to raise awareness among the implementers in this regard.

This study, conducted for the justifications and needs specified above, is considered important in that it acts a source for researchers and educators to perform musicogram applications in the framework of scientific basis, in line with active music listening approaches. The purpose of the study is to evaluate the musicogram applications performed in Türkiye within a certain theoretical framework. Answers to the following questions were sought around the main purpose of the research:

1. How are musicograms named in different languages?
2. Which names are used to reach musicogram studies throughout the Turkish web pages?
3. Which languages do have the highest number of academic publications on musicograms?
4. Which music genre is used the most in the musicogram applications in Türkiye?
5. What are the contents and representations in the musicogram templates in Türkiye?
6. What are the positive-negative situations faced in the musicogram applications in Türkiye?

2. Method

2.1. Research Design

Explanatory sequential design, which is one of the mixed method approaches, was used in this research. In this design, which is also named two stage model, quantitative data create a general framework related to the problematic of the research, while qualitative data ensure quantitative data to be enriched by means of elaboration (Creswell, 2020, pp. 707–708). Survey

and document review methods were used in the research, respectively. The survey method enables the quantitative description of trends, attitudes or opinions in the universe through studies carried out on a sample in the universe (Creswell, 2017, p. 155). On the other hand, document analysis includes the analysis of written, visual or auditory materials that provide information about the cases to be investigated (Yıldırım & Şimşek, 2016, p. 189).

2.2 Data Collection & Study Group

Approximate results containing all of the written, visual, and auditory materials related to the musicograms in the web environment were addressed as initial data in order to come to an opinion on the general population, in line with the first three questions of the research. In this scope, primarily two different searches were made using the keywords "musicogram", "musicograma", and "müzikogram", etc. in web environment, in line with the options "any language" and "in Turkish pages". The keyword "muzogram", which is the most common name for musicogram in Turkish pages, was used in line with the initial data for the purpose of determining the sample to answer the fourth, fifth, and sixth questions of the research. In this scope, a total of 227 musicogram applications, 223 of which were hand-made and 4 of which were in video format, uploaded to the pages in Turkish on YouTube platform between 2000 and 2022 were determined as sample.

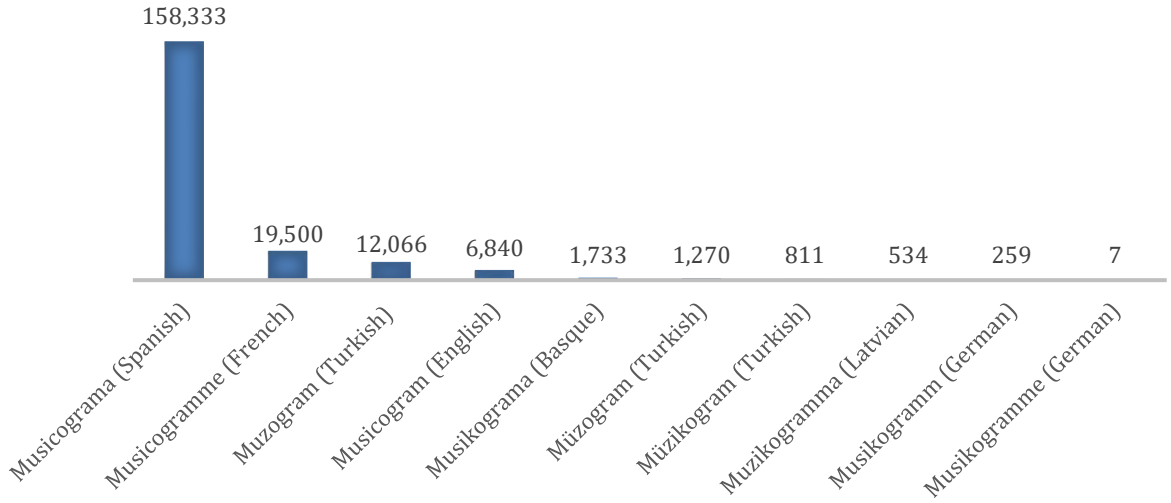
It is probable that not all data reached through different keywords in the research correlate with musicograms. For example, the word "muzogram" was found in 12,066 pages upon the search performed in any language, while 7,826 data results were found in Turkish pages, which was correlated with the fact that the relevant word belongs to Latvian and Polish. However, the search results were mostly found in Turkish pages, and it was concluded that the relevant term found in Latvian pages were not correlated to the concept of musicogram addressed in this research. At the same time, different quantities of the data as a result of the search performed by choosing the options "all results", "in quotes", and "verbatim" were reached. These reveal the limitedness of the research and besides, data searches during the research were repeated in order to reach the most correct data, each result of the search that was made with different options was averaged, and primarily the languages matched with various musicogram names were determined according to the languages of the web pages to which they were associated. Thus, the validity of the study was increased.

2.3. Data Analysis

The documents that comprise the sample were classified primarily according to the music genres and the contents and representations included in each musicogram application were determined by means of content analysis. In addition to this, researcher notes were taken during the video examinations, which reflect positive-negative opinions and recommendations on the musicogram applications. In order to ensure the reliability of the data analysis, support was obtained from a field expert. 10 applications were chosen randomly among the documents that were subjected to content analysis and it was inferred that the music genres, categories, and researcher notes created through an examination by a specialist separately were compatible with the musicogram applications. The methods of bar chart and direct transfer were utilized to present the data types that were analyzed through simple statistical methods and content analysis.

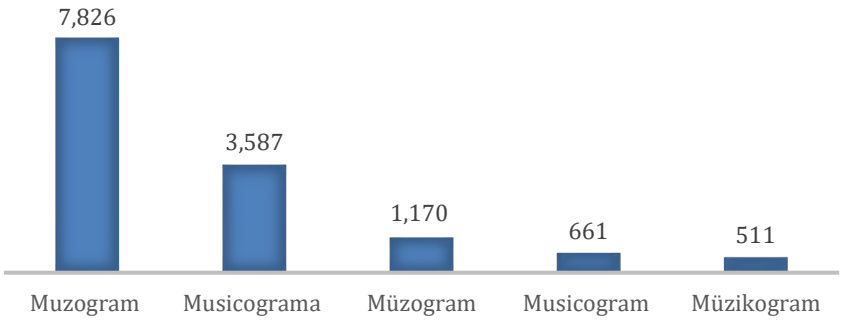
3. Findings

3.1. Quantitative Findings



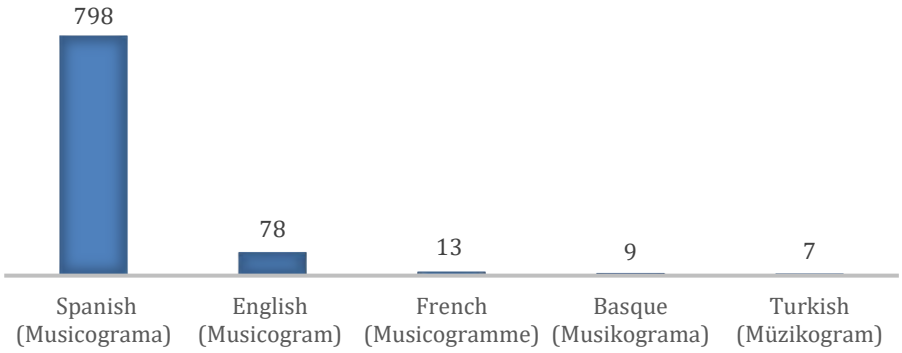
Graphic 1: *Names of musicogram in different languages*

Graphic 1 shows the names given to the studies related to musicograms found as a result of the web search and the languages that these names belong to. According to this, the most common name found was "musicograma" in Spanish. It was observed that the name "musicogramme" in French follows it. Then, the names "muzogram" and "musicogram" were found in Turkish and English. It was also determined that the name "musikograma" belongs to Basque spoken by the communities who live in the north of Spain and in the southeast of France. When examining the names given to the concept of musicogram, it was seen that the relevant words highly resemble each other.



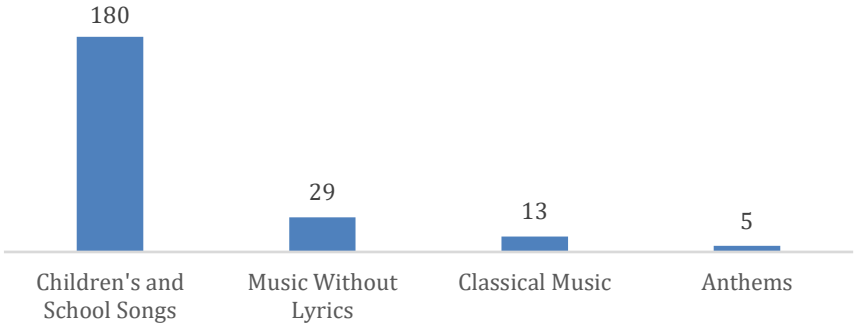
Graphic 2: *The names given to musicogram studies in Turkish web pages*

Graphic 2 shows the names given to the studies related to musicograms in Turkish web pages. A total of 13795 data were reached as a result of the relevant web search. It was observed that 56.7% of the data found were under the name "muzogram". Then, the name "musicograma" was found. It can be seen in Graphic 1 that this name belongs to Spanish. The resemblance between the word "müzogram" in the third rank and the word "muzogram", which is the most common name, is remarkable. Besides these names, the uses of "musicogram" and "müzikogram" were also found.



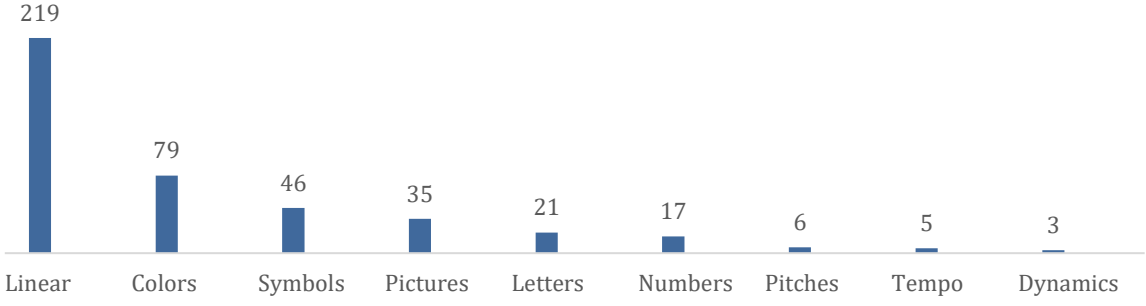
Graphic 3: *Academic publications on musicograms and their languages*

Graphic 3 shows the distribution of the academic publications on the musicograms that were reached as a result of web search by languages. The musicogram names associated with the languages are separately given in parentheses. 905 publications were reached as a result of the search. According to this, the language of the majority (88%) of the academic publications is Spanish and the name "musicograma" was used in the relevant publications. It can be deemed acceptable to address the publications in Basque, which are low in quantity, in the scope of Spanish publications. Only 8.6% of the publications on musicograms are in English. The number of publications in French and Turkish is quite limited.



Graphic 4: *Genres of the music in the musicogram applications*

Graphic 4 shows the distribution of a total of 227 musicogram applications performed in Türkiye and reached on YouTube platform by music genres. When examined, it was determined that 180 of the applications were designed as children's and school songs. 170 of these songs are in Turkish, while 10 are in English. Music without lyrics that is similar to children's songs was used in 29 of the applications, too. Classical music works were preferred in 13 of the applications, while Turkish anthems were preferred in 5 of the applications.



Graphic 5: *Contents and representations found in musicogram applications*

Graphic 5 shows the contents and representations in 227 musicogram applications performed in Türkiye and found on YouTube platform. According to this, almost all (96.5%) of the 227 studies were set with line representations. Colors were used in 79 (35%), symbols were used in 46 (20%), while pictures were used in 35 (15%) of the studies. Letters and numbers were used in some of the research. In addition to these, there is a limited number of studies that contain pitches, changes of tempo, and dynamics representations.

3.2. Qualitative Findings

This chapter contains the findings and comments on the observation notes of the researcher, which were created for the 227 musicogram applications, in order to reveal the positive-negative situations that were faced in the musicogram applications in Türkiye. The examples of expressions that reflect the positive and negative opinions and recommendations in the observation notes were simplified and then presented by means of direct quotation method, and within the framework of relevant categories. The tables only include example expressions and table comments are supported with the general opinions obtained by the researcher from all of the observation notes.

Table 1: *Examples of positive expressions for musicogram applications*

Categories	Expressions
Music selection	The fact that there are no lyrics in music draws attention to the musical elements.
	ABA song forms seem particularly suitable for such type of musicograms.
	Music applications in duple time and quadruple time are easier and more comprehensible.
	Contains tempo changes. These representations are present on the template.
	A simple melody.
Stylistic design	Simple and comprehensible.
	Simple elements do match with the music.
	Plain, consists of colors.
	A study that is very plain, colorful, and can be held up as an example.
	Can be followed by children easily.
Suitability to melodic structure	Dots suitable for the representation of a different musical structure were used in the melody.
	Pitches are comprehensible.
	Positioning of the lines manifests the melodic line (thin-thick).
	A good example for seeing themes and sections.
	Melodic structure can easily be followed. Sentences are separated from each other.
Suitability to rhythmic structure	Matches with the rhythmic structure of the music. Note values and linear forms are balanced.
	A good example for the determination of rhythmic structures.
	A study in which note values are clear. Together in harmony, decelerations are appropriate.
Dynamics-Expression	The dynamics like forte and piano in the work are described with long and short lines.
Suitability to lyrics	Lyrics are referred to through images.
	Symbolic representations facilitate following the lyrics.
Activity variety	Finger movements executed during the intermediate music bridging to the second lyrics are appropriate.
	Musicogram study is combined with another activity. A useful study.

The expression examples that indicate the positive situations related to the 227 musicogram applications are presented under 7 categories in Table 1. As can be understood from the expressions, the following findings were reached as a result of the examinations on the musicogram applications:

It was concluded that the comprehensibility of the musicogram designs is directly proportional to music selection. The structures composed in simple time and in ABA form provided convenience in template designs, too. The musicograms that are set on music without lyrics emphasize musical elements. It was considered as a positive situation to utilize music

with educational content in musicogram studies. Such type of music allows the musical structures to be noticed. For example, presence of musical elements, such as tempo changes in music, allows the representation of these structures to be present in these designs, too.

One of the important points that attract attention in the musicogram applications was the formal structure of the templates. In this direction, it is important that musicograms were prepared in a simple, plain, and comprehensible manner. Thus, the possibility to follow the musical structure increases particularly for children. The harmony between the stylistics forms allows the templates to be comprehensible. Presence of colors in designs increases the noticeability of the templates.

It was considered important that the musicograms were designed in accordance with the structure of the music selected. Visibility of the melodic lines and pitches clearly allows children to notice the melodic structure of the music easily. At this point, it is important that particularly the lines were positioned in accordance with each other. Expression of the themes, sentences, and sections in the music tangibly is considered fruitful for comprehending the musical structures.

One of the most important elements in the musicogram designs is rhythmic structures. Designs that match with the rhythmic structure of the music allow musicograms to be followed easily, particularly by children. The long-short lines and dots inside the linear forms facilitate the expression of the rhythmic structures. It was also seen that the dynamics representations found in limited number of studies can be included in musicograms with again linear or symbolic designs.

Especially children's songs with lyrics were included in the musicogram applications. In some of these studies, lyrics were referred to through symbolic representations. This allows children to memorize the lyrics of the songs and to follow the music easier.

In some of the musicogram applications, physical activities were included, too, as mentioned in active music listening approaches. Thus, the activity became more noticeable and enjoyable.

Table 2: *Examples of negative expressions for musicogram applications*

Categories	Expressions
Music selection	The symbols cannot be followed rhythmically since the song is very slow.
	It is quite difficult to follow the rhythmic structure in such fast songs.
	It is difficult to follow the template since the rhythmic structure in the lyrics of the music is complex.
	There are prosody mistakes in the lyrics.
	It does not match with the irregular time in some points. It is very difficult to follow.
	Due to the structural difficulty of the anthem, it does not match with the linear forms.
	It is problematic as upbeat occurs there. Beat units and meters cannot be understood.
Stylistic design	It is related to word teaching. It does not describe the elements of music.
	The study focuses on letters. There is no match between the letters and the music. It is a writing study.
	A visual template is created for teaching letters. It does not match with the music.
	The study only includes the use of numbers.
	It does not go beyond being a line study.
	The setup is aimed only for the lyrics.
	The music has a simple form but it is not possible to follow the music with this setup.
	The template is too long for this music that consists of similar themes. The song does not have this much elements.
	The linear template is too complex for the melodic and rhythmic richness in the anthem.
	There is a difficulty in using the fingers in following the two linear forms.

Suitability to melodic structure	Horizontal lines are set at different heights, but the notes in the song have the same pitch.
	Similar themes in the music are indicated with different lines.
Suitability to rhythmic structure	The letters used do not match with the rhythmic structure of the music.
	The representations and the note groups in the music do not match with each other.
	The same lines are used for different note values. They do not match with the note values.
	The template does not correspond to the beat units. Further, it does not match with the rhythm of the lyrics.
	The linear representations do not match with the meters of the song.
	The dots with the same size are linked with syllables in different rhythmic structures.
	The linear forms in the study do not match with the rhythmic structure of the music.
	The representations do not match with the long-short note values and dotted values.
	The rests in the music do not have an equivalent in the template. There is a rush in these sections.
	It is not possible to estimate at what speed the representations will be performed. It does not meet the rhythmic structure.
	It is difficult to adapt to the rhythm of the music due to the directions of the figures.
Dynamics-Expression	Dynamics are very clear in the theme repetitions, but they are not shown on the template.

Table 2 shows the examples that indicate negative situations related to the 227 musicogram applications under 5 categories. As can be seen in the expressions, the findings reached as a result of the examinations on the musicogram applications are as follows:

It was observed that there were some flaws due to music selection in the applications. It is difficult to follow the rhythmic structure in songs that are too slow or too fast. Similarly, the complexity of the rhythmic structure in the lyrics makes it difficult to follow the template. Problems were faced in comprehending the best units and following the measures in songs that start with upbeat and songs in irregular time signatures. It was seen that the music in the genre of anthem did not match with the templates due to some of their structural properties. It was also inevitable to have rhythmic problems also in the music where there were prosody mistakes.

It was seen that some of the stylistic designs in the templates comprised only of letters and the linear forms in the written words were followed rhythmically. The purpose of these studies is rather to teach letters and words. Likewise, it was understood that numbers are taught in company of background music in the templates that were set with numbers. The linear studies were also set mostly centered on the same purpose. It was seen that these applications were performed as an activity towards following the lines in the correct direction. In some of the applications, the educators stated that they would conduct an activity as a "finger muscle exercise" before the activity.

When examined, it was seen that difficulties were faced in applying the templates that are too long, complex, and are associated with the elements in the music. The flaws that occurred in applying the sequential representations in the templates are another negative situation. It was understood that this flaw occurred due to the directions, sizes, etc. of the lines.

The indicators that were present in certain templates were set ignoring the musical structure. For example, the notes in the same melodic line were indicated with symbols or lines that were at different heights. Such designs pose an obstacle for noticing the melodic structure. Similarly, setting the same themes with different representations also cause a difficulty in apprehending the musical structure.

Another negative situation faced while examining the musicograms showed up under the category of "harmony with rhythmic structure". It can be seen that some of the negative situations found in the category of stylistic design are associated with this category. For instance; meters, beat units, and note values were ignored in most of the designs. It was thought

that particularly the proportions in shapes and symbols in such templates, where representations were not suitable, could cause the music to be perceived in a different manner. Thus, difficulties were faced in following the musical structure in the musicogram applications that contained the use of dots or lines in the same quantity as the number of syllables, instead of beat units. This situation showed up more clearly especially in the dotted values.

It was seen that the templates did not include any rest, which is one of the most important elements that constructs the structure of music. Therefore, rhythmic flaws occurred many times in the musicogram applications. At the same time, it became difficult to follow the music rhythmically and melodically in most of the applications, since the meters or notes groupings were disorganized in the templates.

As can be seen in Graphic 5, there is quite little music that included dynamics in the examined musicogram applications. In addition to this, it was seen that such representations were not included in some musicograms that were set with music in which dynamics were present clearly.

Table 3: *Examples for expressions related to recommendations on musicogram applications*

Categories	Expressions
Music selection	The designs for the songs beginning with upbeat can be prepared differently.
	Music without lyrics with educational purposes can be used.
	It is usually convenient use duple time and quadruple time music in such studies.
	The groupings in irregular time signature can be more distinct on the template.
	Songs with prosody mistakes should not be selected, if possible.
Stylistic design	Creating forms that correspond to beat units can be more suitable.
	Representations should be set for easier transition between each other.
	Should be simplified for students to understand.
	More colorful and symbolic representations can be utilized.
Suitability to melodic structure	For the same words and melodies, the previous representation can be repeated instead of different ones.
	Template can be plain, symbols and pictures can be used for the music that is rich in melody and rhythm.
	The same melodic lines should be expressed with similar lines.
Suitability to rhythmic structure	Reverse positioning of a curved line will better match with the rhythmic structure of the music.
	The same rhythmic properties should be expressed with similar lines.
	The same representations that are sequential should not indicate different note values.
	Lines and symbols with the same length should belong to the same note values.
	An image or physical movement can be included for the rests at the end of each motif.
	It should be remembered that curved lines have a rhythm, too.
	Spiral lines can be used if the music lengthens or is free in the sections where there are curved lines.
	It would be more correct to indicate short notes with dots instead of lines.

Table 3 shows the examples for expressions related to the recommendations on the 227 musicogram applications under 4 categories. The findings and comments in Table 4 reemphasize the positive and negative situations (see Table 1 and Table 2) in musicogram applications, as well as they serve as advices and recommendations for the implementer. Accordingly;

While selecting music for musicogram applications, particularly educational music should be preferred and songs that have prosody mistakes should not be included. In addition to this, it is convenient to set the selected music with simple times. It can be said that it is necessary to draw attention especially to grouping for musicograms created for musical pieces in irregular

time signature, and similarly, it is necessary to take a precaution for music that starts with upbeat.

It is considered necessary that use of colors and symbols are included in stylistic designs more. Arrangements can be made to simplify templates for children who experience difficulty due to the complexity of stylistic structure. It can be considered to prepare a setup for beat units of music in template designs. In addition to this, the same rhythmic structures should be created by utilizing the same or similar representations that can be considered as an equivalent to the previous one.

Similar forms can be utilized in templates in order to facilitate learning of lyrics and melodic structure. In the music rich in melody and rhythm, templates can be created in a plainer manner. At the same time, it can be said that symbols and pictures can be included more in such type of music. Especially the same melodic lines should be expressed with the same or similar representations, as is in rhythmic structures.

In order for musicograms to match with the rhythmic structure, first of all, attention should be paid to the relationship between note values and representations. For example, for short and long note values, it is convenient to choose representations with similar characteristics, such as the use of short and long lines. In addition to this, the direction of linear representations should be determined correctly due to the rhythmic syncopations occurring in applications because of line directions. In order to eliminate the problems seen in the applications, care should be taken about the length and dimensions of the curved lines. In order to eliminate the problems experienced in sections where there is a rest, it can be considered to utilize various representations or complete these sections with a physical movement to be determined by teacher.

5. Conclusion, Discussion and Recommendations

In this study that deals with the musicogram applications in Türkiye, first of all, an international level survey was conducted and it was aimed to reach the most correct information about musicograms by reaching the primary sources. Within the scope of the data obtained from the general population, important findings were reached, which are considered to make contributions to the audience about musicograms and their applications, upon examining the 227 musicogram applications performed in Türkiye.

As a result of searching the web pages, various names for musicogram studies were found in different languages, and the most common result found was “musicograma” in Spanish. At the same time, most of the academic publications on musicograms were also in Spanish. This can be justified by the fact that Wuytack had been to Portugal for the first time in 1968 upon the invitation from Gulbenkian Foundation, lectured in the Orff-Shulwerk Summer Courses in Lisbon, and guided to the music pedagogy courses in Lisbon, Porto, and some other cities in the following years regularly (G. Boal-Palheiros, 2012, p. 7). In addition, it is known that musicograms were included in the Spanish Educational Act dated 1990 and became widespread in Spain (Botella Nicolás, & Marín Liébana, 2016, p. 219; J. C. M. Rubio et al., 2009, p. 97).

Various names for musicogram studies were found in Turkish pages. It can be stated that the word “müzikogram” is referred to with the widest used names (musicograma, musicogramme, and musicogram) in literature. When examining the relevant names, it can be said that they consist of the combination of the words music and audiogram. Coroiu (2021, p. 103) likens musicograms to a kind of audiogram. For this reason, it is thought that the most common used word “muzogram” in Turkish pages does not truly meet the construct for the origin of the term musicogram. Similarly, the word “müzogram” is not a correct name, either. In this direction, it is understood that the implementers did not reach the primary sources for

this method and used the first naming they found in the web environment. Therefore, it can be said that both of these names are used based on hearsays and memorizations. It is seen that the word "müzikogram" is preferred in the academic publications in Turkish; however, since the number of publications is insufficient, this term could not become widespread. The findings obtained within the scope of the research indicate that the most correct use for musicograms in Türkiye will be the term "müzikogram".

As a result of the examinations conducted on a total of 227 musicogram applications performed in Türkiye and uploaded to the YouTube platform, it was determined that children's songs and school songs were used the most. It was seen that music without lyrics, particularly classical music repertoire was not included. According to Wuytack and Boal-Palheiros (2009, p. 48), musicograms are addressed to certain classical music repertoire and the most suitable works are particularly the orchestral music, which has a systematical meter and a clear structure. In addition to this, works or music pieces in various genres that may require different strategies to teach should be included in music education classes. For example, the works composed for children can be included in this music repertoire. In line with these statements, it can be considered convenient to use children's and school songs as a music genre in musicogram applications. However, it can be stated that classical music repertoire, which has a rich power of expression to acquire music listening skills, should be utilized frequently.

As a result of the positive-negative situations faced in the applications, it was concluded that one of the most important points to perform musicogram application effectively is music selection, in addition to music genre. In this direction, first of all it is considered necessary that music serving for educational purposes are selected and musicogram templates are created for the elements in the music. At the same time, it is considered important to try the relevant applications by matching them with the music and make the necessary corrections by the educators before an activity. Examining the applications, no study in which children make a musicogram design during the music listening activity was found. Examining the templates gave rise to the thought that the designs were made by the educators. For this reason, educators are expected to give children an opportunity to create their own designs in musicogram applications, in line with the active music listening approaches. Gluschankof (2018, p. 224) states that the conditions required for active music listening involve existing space, time, equipment, and interesting music pieces, while mentioning the existence of a sensitive teacher who is aware of the power of the music and supports children's own representations.

It was seen that almost all of the musicograms analyzed within the scope of the research were created with linear forms. These studies were generally arranged colorless, while it was detected that some of them used colors. The liner studies were mostly similar to each other, while it was seen that the use of symbols and pictures was limited.

The examinations performed most of the time provided an opinion about what the purpose of the musicogram applications was. In this direction, it was understood that musicogram applications were given the aims of finger exercises, line studies, teaching letters and words, rather than an aim towards music education. These findings turn out to be completely contradicting with the active music listening approach. This reveals that musicogram materials are used out of their main purposes, although performing different activities for the use of such purposes in preschool period is perceived as effective and creative studies. The elements such as pitches, tempo changes, dynamics, etc. were included in the templates in limited numbers and the musical instruments used in the music were not specified in any of the studies, which support the idea that the musicogram applications did not have a purpose towards music education in general terms.

It was seen that the same music was used in many different applications with the same designs in the musicogram activities. This caused the repetition of the mistakes seen in the applications. Especially, the mistakes faced in rhythmic and melodic structure gave rise to an opinion that these studies were conducted by the implementers who were generally not specialists in the field of music education.

The results of this research show that correct and reliable sources for the purposes, designs, and application forms of musicograms should be reached and applications should be performed by educators who have a sufficient level of knowledge in the field of music. In addition, the templates in the application examples reached in web environment should primarily be examined and matched with the music by implementers, and thus, improper applications should be avoided. This is because, in order for children to apply musicograms, teacher should also know about the musical expressions and themes (Homone, 2020, p. 14).

Within the scope of the study, only 4 musicomovigram applications were found among the 227 musicogram applications, which revealed the need for an increase in the studies to be conducted with information technologies. Botella & Liébanas (2016, p. 231) stated in their study that musicomovigrams that are in video format would be more beneficial for students and mentioned about a need for cooperation between music educators and animators, production of computer software to be used for designing relevant materials, and establishment of online banks.

It is considered important to conduct educational studies by music educators within the scope of in-service courses, seminars, and certification programs in addition to increasing scientific publications in Turkish in order to design and maintain musicogram applications in Türkiye effectively and correctly for educational purposes and in line with the active music listening strategies. It was revealed in the study by Onay and Aytemur (2021) conducted to determine at what level the musicogram technique is known and how it is applied by the teachers who conduct music lesson in Turkey, it was revealed that after teachers participated in a seminar in the process of research, they showed significant development for preparation and application of musicograms. In this direction, the researchers stated that the musicogram technique is easy to learn and the relevant trainings can be made widespread and the relevant topics can be addressed in in-service trainings. In addition, a result in the said study that is parallel with the results of this study is remarkable. It was seen in the activities conducted within the scope of the research that the musicogram technique was only limited to the use of templates and music teachers did not apply the other details of the technique in line with the active music listening approach. Therefore, it is important to pay attention to this point in musicogram promotions and trainings to be conducted by specialists.

The inability to conduct musicogram applications effectively can be referred to the needs for space, time, and equipment, besides the fact that implementers do not have sufficient knowledge and skills. In this direction, studies can be conducted to promote various active music listening strategies that are available for the conditions and can be applied with the existing equipment, within the scope of various educational purposes.

The results of the research showed that musicograms take an important place particularly in music education for children. In this direction, it is considered necessary that activities aimed at developing listening skills are performed also by teachers who conduct music classes at preschool and primary school institutions effectively. For this reason, active music listening methods can be promoted, and applied studies that contain the use of materials like musicogram can be included in the music classes in the undergraduate educations of the relevant departments. Thus, these materials can serve as a guide for learning and teaching music also for the educators with limited knowledge of notes.

References

Boal-Palheiros, G. (2012). Jos Wuytack: Pedagogia Musical com um sorriso [Jos Wuytack: Music Pedagogy with a Smile]. *Revista de Educação Musical*, *138*, 5–9.

Boal-Palheiros, Graça, & Bourscheidt, L. (2011). Jos Wuytack: A pedagogia musical ativa [Jos Wuytack: An active music pedagogy]. In T. Mateiro & B. Ilari (Eds.), *Pedagogias em educação musical* (pp. 305–349). Brasil: Editora IPBEX.

Boal-Palheiros, Graça, & Wuytack, J. (2006). Effects of the "musicogram" on children's musical perception and learning. *9th International Conference on Music Perception & Cognition*, 1264–1271. Bologna/Italy: Alma Mater Studiorum University of Bologna.

Botella Nicolás, A. M., Hurtado Soler, A., & Ramos Ahijado, S. (2019). Innovation and ICTs in the sound landscape of festive music through the creation of musicomovigrams. *Vivat Academia. Revista De Comunicación*, (147), 109–123. https://doi.org/10.15178/va.2019.147.109-123

Botella Nicolás, A. M., & Marín Liébana, P. (2016). Use of musicomovigrama as teaching resource for the work of attentive, active and comprehensive hearing in primary education. *Cuadernos de Música, Artes Visuales y Artes Escénicas*, *11*(2), 213–235.

Coroiu, P.-M. (2021). The audiograms of Aurel Stroe's Mandala—An efficient method of understanding the semantics of contemporary music. *Tehnologii Informatice Şi de Comunicaţie În Domeniul Muzical*, *12*(1), 101–109.

Creswell, John. W. (2017). *Araştırma Deseni: Nitel, Nicel ve Karna Yöntem Yaklaşımları* (3rd ed.; S. B. Demir, Ed.; M. Bütün, Trans.). Ankara: Eğiten Kitap Yayıncılık.

Creswell, John. W. (2020). *Eğitim Araştırmaları: Nicel ve Nitel Araştırmanın Planlanması, Yürütülmesi ve Değerlendirilmesi* (3rd ed.; H. Ekşi, Trans.). İstanbul: Edam.

Delegido, J. M. A., & Villodre, M. del M. B. (2019). Musicograms for interculturality: Are we prepared in primary education? *Magister: Revista Miscelánea de Investigación*, *31*(1), 1–8.

Gluschankof, C. (2018). Young children as music connoisseurs. *Israel Studies in Musicology Online*, *2*(15), 211–227.

Homone, A.-I. (2020). The musical audition or the musicogram as ear training methods. *Tehnologii Informatice Şi de Comunicaţii În Domeniul Muzical*, *11*(1), 7–15.

Júnior, E. R. B., & Raymundo, D. do N. (2020). Musical education in the context of youth and adults with intellectual functional diversity: Ressources of musical appreciation. *Revista Da FUNDARTE*, *41*(41), 1–21. https://doi.org/10.19179/2319-0868/759

Marrama, A. G. (2014). *Music as a motivating factor in the teaching of english as a L2* (Final project). Universitat Jaume I, Castelló.

Mercedes, M. L. (2016). *Teaching music through a bilingual approach at primary education in Andalusia* (Master dissertation). Universidad de Jaén.

Nikolov, T. M. (2016). *Audición activa. Propuesta didáctica para el tercer curso de la etapa primaria [The use of the musicomovigram as a didactic resource for the work of attentive, comprehensive and active listening in primary education]* (Trabajo de fin de grado). Universidad de Valladolid.

Ojeda-Gurrea, E. (2020). *Project-based learning and ICTs applied to the subject of music for oral communication development. A clil proposal for the 5th year of primary education.* (Master dissertation). Universidad de Jaén, Unıversıdad De Córdoba.

Onay, E., & Aytemur, B. (2021). The musicogram journey of teachers in distance education. *Uluslararası Eğitimde Yenilikçi Yaklaşımlar Dergisi*, *5*(4), 301–320. https://doi.org/10.29329/ijiape.2021.425.2

Pérez, A. M. (2018). El modelo TPACK como base teórica en la educación musical a través de musicogramas interactivos [The TPACK model as a theoretical basis in music

education through interactive musicograms]. *International Studies on Law and Education*, 195–206.

Pérez, A. M. (n.d.). La Escucha Musical Interactiva. Retrieved July 11, 2022, from http://www.eduonline.ua.es/laescuchainteractivavirtual/

Rubio, J. C. M., Rubio, V. M. M., & Ariño, J. M. F. (2009). Musicogramas con movimiento. Un paso más en la audición activa [Musicograms with movement. One more step in active audition]. *Ensayos: Revista de la Facultad de Educación de Albacete*, (24), 97–113.

Rubio, M. C. (2016). The evolution of the musicograms of J.Wuytack through resources development ICT. *Anaıs do Ivsımpom 2016-Sımpósıo Brasıleıro de Pós-Graduandos em Músıca*, 524–532. Rio de Janeiro.

Rubio, M. C. (2018). *Seeing through the ears, listening through the eyes* (Master dissertation). Universidade Estadual de Campinas, CAMPINAS.

Rubio, M., Fornari, J., & Mendes, A. (2017). A study about the use of musicomovigrams in musical education. *NICS Reports*, (21).

Serrano Chover, T. (2020). *Actividades Multinivel desde la teoría de las Inteligencias Múltiples para dar respuesta educativa a la diversidad [Multilevel activities from the theory of Multiple Intelligences to provide an educational response to diversity]*. (Final project). Universitat Jaume I.

Wuytack, J., & Boal-Palheiros, G. M. (2009). Active music listening with the musicogram. *Eufonía: Didáctica de la música*, (47), 43–55.

Yıldırım, A., & Şimşek, H. (2016). *Nitel Araştırma Yöntemleri*. Ankara: Seçkin.