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The Usability of Sefai Acay's Approach in Teaching Modal Scales in Music Awareness, Reading, and Writing Lessons

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Abstract

This research aims to determine the cognitive level of knowledge of modal scales among students studying in the Music Department of Fine Arts High Schools and taking the Musical Ear Training, Reading, and Writing (MEET) course, and also to reveal the methods and strategies adopted by educators conducting the course in teaching modal scales. The study examined the applicability of the approach developed by educator Sefai Acay, which aims to concretize the teaching of modal scales, in MEET courses. The research was conducted using a quasi-experimental design, and a self-assessment scale was administered to the students during the data collection process. A pre-test and post-test were also used to determine the effectiveness of the Acay approach. The obtained data were analysed using descriptive statistics. The findings show a significant increase in students' cognitive levels regarding modal scales after the application. Furthermore, student feedback revealed that the Acay approach offers a functional teaching model in terms of concretizing concepts, perceptually distinguishing modal scales, and supporting lasting learning. In conclusion, the Sefai Acay approach is evaluated as an effective and applicable method for teaching modal scales in Musical Ear Training, Reading, and Writing courses.

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Introduction

Music education is a complex field encompassing many different branches and areas, with a multifaceted structure in terms of content, process, and interconnected disciplines. It has developed its own specialized fields, each requiring related studies in relation to others. The discipline most frequently associated with music is education. The methods and techniques of education are applicable to almost every area of music. Generally speaking, music education can be said to consist of musical hearing, playing and singing, and musical knowledge and culture (Clarke et al., 2015). Musical hearing and reading skills are essential for every individual

involved in music. The work done in these courses aims to impart a wide range of knowledge and skills, from perceiving differences between sounds and developing melodic perception to various theoretical musical concepts and improving auditory memory. In this respect, musical hearing, reading, and writing are fundamental areas, particularly in professional music education, and the information in the course content is considered to have a significant role in enhancing readiness in other areas of music.

Musical Ear Training is among the core subjets offered during music Education prrograms (Uçal-Canakay, 2023). These programs, encompassing common knowledge and skills for all areas of music, including playing and singing, regardless of genre or form, are most fundamentally taught in the Music Departments of Fine Arts High Schools. While primarily taught at the high school level, these departments lay the foundation for future musical knowledge, requiring courses that are presented in a clear and memorable manner. Considering that Musical Ear Training, Reading, and Writing (MEET) courses introduce both the fundamental principles of Western music and the basic structures of Turkish music, it stands out as a process where both musical genres merge and interact. Therefore, careful organization of the course content and the presentation of information on both musical genres within a structured and relational system are essential. At the time this study was conducted, the MEET curriculum had content that addressed both Western and Turkish music knowledge together. Because the curriculum does not address this information holistically, and because insufficient studies have been conducted on the relational aspects of these two musical genres, those teaching this course do not feel the need to address and present this information as a whole. However, there are a few educators who have conducted research and studies on both musical structures, and beyond expressing their findings in a few publications and sharing them with their students, they have undertaken efforts to disseminate them. Sefai Acay is one of the foremost among them. He compiled the theoretical studies he developed over the years in the MOY (Musical Oriental Music) courses he taught in the music departments of education faculties into a book, and in addition to sharing his theories with his students, he has made a significant effort to disseminate them.

This research is significant because it examines Sefai Acay's approach to teaching modal scales and tests the applicability of his theory using a quasi-experimental method. It also aims to popularize this approach, which has been shown to facilitate the teaching of modal scales and ensure greater retention. The research has shown that Sefai Acay's approach has brought a more scientific perspective to the content of musical ear training, reading, and writing lessons, and has ensured the integrity of instruction by presenting a method related to Western music.

Review of Literature

Fundamental Objectives in Music Education

Education is an important element for individuals and societies that attach importance to change and development. The development of the individual, the transmission of tangible and intangible cultural values from generation to generation, and the preservation of living values can be achieved through education. Güler states that education has a respected place in all societies and that, through education, societies find the opportunity to preserve living values, validate ideals, and transmit values, and that this opportunity enables every society to prepare its own individuals for life. He emphasizes that education, which ensures the development of awareness in personality, also aims to guide individuals (1997: 1). Education also plays an active role in the processes of enculturation, acculturation, and cultural interaction of individuals and societies. According to Sönmez, education, in its broadest sense, can be considered as a "process of enculturation"; in other words, it is "the process of acquiring cultural values by the individual" (2008: 5). Another important element in this process is music. Music perhaps undertakes more responsibility than other branches of art in this process of change and development and occupies an important place. Individuals and societies can transmit their traditions and customs, as well as their tangible and intangible cultural values, through music. They can benefit from music in the fluidity of culture. "As is known, music education is fundamentally the process of

gaining music-related behaviors for individuals. Unlike education in other disciplines, both art and science are taught together in music education. In this respect, the responsibility of the music educator increases twice as much compared to other fields" (Somakçı, 1999: 53).

This utilization may be informal as well as formal. Music education takes its place within this cultural fluidity through formal means. The task of music education is not only to transmit culture but also to ensure the cultural, economic, educational, social, and individual development of individuals. Uçan considers all these as the acquisition, modification, and formation of behaviors. In this process, he argues that the individual's own environment is influential, that a planned, organized, and systematic path should be followed based on these experiences, and that objectives can be achieved through such methods (1994: 14).

Uçan states that, regardless of its nature, music education at all types and levels has certain fundamental principles and objectives that are largely valid. "Music education should diversify and differentiate the student's musical perception ability; free the student from one-sided habits of making and listening to music that are products of certain conditionings; expose the student to the diverse and multidimensional tonal characteristics of music, its structural elements, forms of organization, and fields of influence; provide the student with a higher level of awareness and critical ability in their relationship with music; develop individual musical abilities that will assist the student in selecting an instrument, a record or cassette, a music-related book or source, and in criticizing and evaluating a musical work or activity; and ensure the student's active participation in different types of musical studies and activities" (1994: 15). Music education may lead to developing various aspects of individuals, and this development also paves the way for social development (Rabinowitch, 2020).

The Importance of Pre-Undergraduate Vocational Music Education

These schools, which are included within the scope of our research and were first opened in İstanbul in 1989 during the term of Minister of National Education Avni Akyol, filled an important gap in Turkish arts education (Türkmen, 1999: 7) and took their place in the history of education by undertaking a mission far beyond their founding purposes. "Anatolian Fine Arts High Schools are secondary education institutions opened in locations suitable for fine arts activities, preferably in places where higher education institutions implementing fine arts programs are located. In accordance with the General Objectives and Fundamental Principles of National Education, they were first opened in the 1989–1990 academic year in İstanbul under the General Directorate of Secondary Education of our Ministry in order to:

a) provide education for students who have interests and talents in the field of Fine Arts,
b) direct students toward investigative and developmental studies and educate them as individuals who can make optional, independent, and accurate interpretations and applications in line with their abilities,
c) help students recognize and understand national and international, historical and contemporary works of art" (Yıldız, 1996: 27).

Although the undergraduate preferences of Fine Arts High School students, who are regarded as an important human resource for conservatories, faculties of music and performing arts, music education departments, and music-related programs of fine arts faculties providing vocational music education, have largely concentrated on teaching, it is known that in recent years there has been an orientation toward fields of science and art such as composition, musicology, technology, and folk dances within conservatories and music departments of fine arts faculties. At the social level, the relationship of body awareness and other individual's awareness while in a musical environment can evoke certain responses. To elaborate, in social cognition, the bidirectional influence of self and others can affect how individuals act in a group setting. (Navarro, 2015).

Musical Ear Training, Reading and Writing Education

In the process of musical literacy, students need qualified education in the stages of reading, writing, analyzing, and producing. This education, which

changes and develops students cognitively, affectively, and aurally, also has a significant effect on readiness at the undergraduate level. Although it varies among individuals, hearing ability can be developed through systematic education. Musical hearing "includes behaviors such as perceiving, identifying, distinguishing, and analyzing musically heard sounds. Musical reading refers to the vocalization of notes—which can be described as the letters of music writing—with their names, pitch, duration (rhythm), tempo, dynamics, and articulations. Musical writing, on the other hand, refers to expressing sounds through the elements of music notation. Musical writing facilitates musical thinking, develops musical creativity, and activities related to musical creativity help better comprehension of the elements of musical language" (Aydoğan & Özgür, 2002: 4; Palhares, et al, 2024). The multidimensional nature of hearing education is important for students to experience a comfortable and knowledgeable process in their subsequent educational lives.

The MEET course, which holds an important place in the curriculum of Fine Arts and Sports High Schools, has been referred to by different names from past to present. In the "Musiki Muallim Mektebi Regulation" (1925 Regulation Article 8 and 1931 Regulation Article 7), it appears as "musiki kıraatı" in the list of courses to be taught at the Musiki Muallim Mektebi (Official Gazette 7.2.1931/1769). In the Music Teacher Training School during the 1938–1939, 1939–1940, and 1940–1941 academic years, it was named "Ear Training." In 1944, 1946, and 1947 it was referred to as "Ear Education" in the weekly course distribution schedules of the Music Branch, and later in the 1966 Music Department curriculum. With the affiliation of the Musiki Muallim Mektebi Music Branch to the Gazi Secondary Teacher Training School and Education Institute in the 1937–1938 academic year, and with the combination of two concepts in the 1969–1970 academic year, it was named "Ear Training and Solfeggio." In the 1978–1979 academic year, when Gazi Education Institute became Gazi Higher Teacher Training School, its name was changed to "Musical Hearing and Reading." Later, in many institutions providing vocational music education, it was also named "Solfeggio," "Music Theory," "Solfeggio–Dictation," and "Musical Ear Training, Reading, and Writing (MEET)" (Deniz, 2009: 17).

At the time the study was conducted, the Musical Ear Training, Reading, and Writing Course Curriculum of Fine Arts High Schools consisted of general objectives, basic skills, values and attitudes, learning areas, learning outcomes, activity examples, and explanations, and the program aimed for students to:

- acquire musical hearing, recognition of tonality and modality, musical reading, sight-reading, musical writing, and polyphonic hearing skills,
- develop monophonic and polyphonic hearing skills,
- use musical notation, terminology, and symbols in music performance,
- develop tonal and modal sensitivity,
- develop musical writing (dictation) skills,
- acquire musical reading skills,
- develop melodic and rhythmic memory,
- develop understanding, expression, and listening skills through music,
- compare Turkish music and Western music in their classical and folkloric aspects,
- analyze the place of Turkish music within world music,
- contribute to the sociocultural development of Turkish society through music education,
- gain the habit of using time efficiently in their studies,
- develop a sense of responsibility in individual and group work,
- represent the country in national and international musical activities,
- develop awareness of national unity and solidarity through music,
- interpret Atatürk's views and thoughts on contemporary Turkish music (MoNE, 2009: 9–10).

The learning areas of the program are as planned as:

1. Musical Signs and Terms
2. Tonal and Modal Music
3. Musical Reading
4. Musical Writing

The "learning of tonal and modal music," which constitutes the subject of this research, is explained in

the program as follows: "Makam is defined in our traditional art music as the progression and organization of sounds within the framework of the tonic and secondary tonic. Modal music refers to music that exists within the modal system and is composed according to modal principles. The aim of the tonal and modal music learning area is to enable students to recognize Western and Turkish music with their classical and folkloric characteristics by transferring the rules of tonal and modal music and to comprehend Atatürk's views and thoughts regarding Turkish and Western music" (MoNE, 2009: 13). "Tonal music refers to music that exists within the tonal system and is composed according to tonal principles. Tonality is the organization of a scale according to tonal principles and rules. It can be defined as the system explaining how such scales are structured and the set of rules upon which it is based" (Say, 2005: 485).

Explanations regarding the musical writing learning area, which also constitutes the subject of this research, are as follows: "Musical writing (dictation) is defined as writing melodically structured pieces in accordance with meter, note durations, and pitch heights by taking tonal-modal conditions into consideration. The musical writing learning area has been designed to include rhythm writing studies in addition to tonal and modal dictation. The objective here is for students to perceive music they hear in tonal and modal structures and transfer it onto the staff, and through rhythm writing studies reinforce topics such as note values, rhythmic knowledge, and meter concepts while developing a sense of rhythm" (MoNE, 2009: 12).

The program aims to teach the makams Hüseyni, Kürdi, Nikriz, Hicaz, Hüzzam, Segâh, Saba, Nihavend, Karcığar, and Rast. The objective of this instruction is considered to enable students to recognize tonality and modality and, through this recognition skill, perform studies such as solfeggio and dictation. Within the program, 20 learning outcomes related to the tonal and modal music learning area are distributed over 8 class hours. This learning area constitutes 22% of the program.

The Sefai Acay Approach

Acay, whose compositions are frequently included in general music education books, especially primary and secondary school music textbooks, and whose songs have been performed by many people, served for many years in every dimension of music education with his productive personality that guided vocational music education in our country. Throughout his professional life, Acay received many awardsand his children's songs entered the Turkish Radio and Television (TRT) repertoire, and many of them were performed between 1990 and 2000 by the TRT İzmir Radio and Television Children's Choir under the direction of famous composer and conductor, Prof. Hikmet Şimşek (Acay, 2012: 175).

According to Acay's approach, which compares tonal and modal scales and is considered to be applicable to and contributory within vocational music education and constitutes the subject of this research, modal scales can be performed on the piano, modal scales can be identified based on the degrees of tonal scales, and melodies written in modal scales can be analyzed. According to Acay, connections can be established between certain makam scales in traditional Turkish art music and modes and tonal scales. Acay explains his approach as follows: "All major scales can be considered as the transposed rast makam scale; the related minor (natural-harmonic-melodic) scales of major scales as the transposed nihavent makam scale; the scales formed on the second degree of the major scale as the transposed hüseyni makam scale; and the scales formed on the third degree of the major scale as the transposed kürdi makam scale" (2009: 8).

According to Acay, new and different scales can be formed through this approach. "By lowering the 5th degree by a minor second according to the tonic (finalis/durak) note of the hüseyni makam scale, the transposed karcığar makam scale is formed. By raising the 4th degree by a minor second according to the tonic note of the hüseyni makam scale, the transposed nikriz makam scale is formed. The acquisition of a leading tone (yeden/sensible) by the tonic note of the kürdi makam scale, in other words raising the 7th degree by a minor second relative to the tonic note, forms the transposed segâh makam scale. The transposed hicaz makam scale is formed through scales beginning on the 5th degree of harmonic minor scales. By repeating the fundamental hicaz tetrachord twice, hicazkâr or hicaz hümayun makam scales are formed" (2009: 9-12). In formal education,

instructors responsible for courses are expected to possess extensive and comprehensive knowledge in order to achieve educational objectives, as well as to develop teaching methods and strategies. Because objectives are "characteristics expected to be acquired by students as a result of planned experiences, intended to create behavioral change, and suitable to be expressed as behavior" (Tarman, 2006: 55).

Acay demonstrated his professional experience and accumulation of knowledge through the approach he proposed. He developed a unique strategy and implemented this strategy within the teaching-learning process. Unlike many educators, Acay particularly attempted to establish a relationship between makam and tonality, aimed to teach traditional Turkish music makam scales through internalization rather than rote procedure, and created awareness. In this study, it was aimed to determine the modal scale learning levels of students taking Musical Ear Training, Reading, and Writing courses according to their grade levels, the methods and strategies used by instructors conducting this course in teaching modal knowledge, the cognitive, affective, and auditory levels and self-evaluations of students, and the usability of the Sefai Acay approach in comparing tonal scales and melodies with modal scales and melodies.

The main research problem of the study has been determined as "Can the Sefai Acay approach be used in teaching modal scales in Musical Ear Training, Reading, and Writing courses?" In line with this main research problem, the following sub-problems have been identified:

1. What are the readiness levels of students regarding their knowledge of modal scales?
2. Has a significant change occurred in students' cognitive development related to modal scales following instruction based on the Sefai Acay approach?

Method

Research design

The study adopted a quasi-experimental research method based on survey and experimental models for determining the situation in terms of its general framework, purpose, and method. "Survey models are research approaches that aim to describe a situation that existed in the past or still exists as it is. The individual or object subject to the research is tried to be defined within its own conditions and as it is. No effort is made to change or influence them in any way. What is scientifically desired exists and is there. The important thing is to observe and determine it appropriately" (Karasar, 2009: 77). In experimental models, cause-effect relationships between variables are examined (Büyüköztürk et al., 2024:11), and the intervention of the researcher in the process is involved. Based on this, the research is a quasi-experimental study conducted in its natural environment. Experiment can be defined as the process of determining the effect of the independent variable on the dependent variable in an organized and controlled environment and the empirical knowledge obtained at the end of this process (Sönmez and Alacapınar, 2011: 50). The dependent variable of the research is the teaching of modal scales, and the independent variable is the Sefai Acay approach. According to Karasar, the dependent variable is "a type of result that disturbs the researcher and is desired to be explained. The dependent variable is selected by the researcher and the information to be collected about it is expected to shed light on problem solving. The independent variable, on the other hand, is the stimulus variable whose effect on the dependent variable is desired to be learned. Independent variables are taken in order to 'affect the dependent variable in the desired direction'" (2009: 61).

Participants

The participants of the study consisted of the Music Departments of Fine Arts and Sports High Schools in Kütahya, Isparta, Denizli, and Uşak provinces in the pre-test, and the Music Department of Kütahya Fine Arts and Sports High School selected purposefully in the post-test. In the pre-test, 242 students from the 10th, 11th, and 12th grades of the Music Departments of Kütahya, Isparta, Denizli, and Uşak Fine Arts and Sports High Schools voluntarily participated in the study, while in the post-test, 76 students from the 9th, 10th, 11th, and 12th grades of the Kütahya Fine Arts and Sports High School Music

Department voluntarily participated. Since 9th-grade students had newly started music education and did not possess the learning conditions subject to the research, the pre-test was not administered to 9th grades.

Data collection and analysis of the data

In the research, data were collected through a self-assessment scale administered to students. Self-assessment can be accepted as a scale used in the measurement and evaluation stage of education. "It can also be called individual or self-evaluation. It can be explained as students judging their own learning processes, especially their achievement levels and learning outcomes. The main purpose is to develop students' self-assessment skills. It enables the student to evaluate their own strengths, weaknesses, and skills" (MoNE, 2013). The purpose of developing this scale is to determine how much knowledge students have about modal scales and in which areas problems exist. This scale was prepared by benefiting from the MoNE Fine Arts and Sports High Schools Musical Ear Training, Reading, and Writing course curriculum. After the scale was developed, a pilot application was conducted, and following this application, necessary corrections were made and the implementation phase with students was initiated.

The scale administered as pre-test and post-test has a structure revealing students' levels of recognizing makams. Between the pre-test and post-test, lessons based on the Acay approach were taught separately to each class for three weeks, one hour per week. In order to support the research, modal analyses of works composed in the makam scales addressed within the scope of the research were asked. This study was applied only to the experimental group in the pre-test and post-test. It was conducted to determine students' readiness and cognitive levels. All obtained data were analysed via descriptive statistics, processed into tables, and interpreted.

Limitations

The study is considered important in terms of contributing to the field, determining the existing situation, and offering recommendations. In this research, it was assumed that the data collection methods and techniques determined for the study were appropriate to the purpose of the research, that the data obtained through literature review related to the research were appropriate and sufficient, and that the responses given by the study group to the self-evaluation scale reflected the truth. The research was limited to students taking Musical Ear Training, Reading, and Writing courses in the music departments of Kütahya, Denizli, Isparta, and Uşak Fine Arts and Sports High Schools, and to the hüseyni, kürdi, and hicaz makams included in the Musical Ear Training, Reading, and Writing course curriculum of the music departments of Fine Arts and Sports High Schools.

Findings

Findings Related to the First Sub-Problem

The first sub-problem of the research was determined as: "What are the readiness levels of students regarding their knowledge of modal scales?"

The research was conducted within the framework of 18 questions directed to students in Kütahya, Isparta, Denizli, and Uşak Fine Arts and Sports High Schools, and students were asked to evaluate the questions according to the options "yes," "not sure," and "no."

Students' Self-Evaluation of Success in Dictation Studies Related to Modal Scales

When the distributions regarding students' self-evaluation of success in dictation studies related to modal scales were examined, it was seen that the rate of those who answered yes was 27.2%, the rate of those who answered not sure was 47.1%, and the rate of those who answered no was 25.6%. The fact that the rate of those who think they are successful in modal dictation studies is lower than the total rate of those who are unsure and those who do not consider themselves successful can be interpreted as students generally not being successful in dictation studies related to modal scales. Insufficient practice in modal dictation writing may also be shown as a reason for the emergence of these distributions. This situation reveals that dictation studies related to modal scales

are not sufficient. From this, it has been concluded that the methods used and the education provided do not sufficiently ensure students' success in modal dictation studies.

Students' Self-Evaluation of Success in Solfeggio Studies Related to Modal Scales

According to the distributions regarding students' self-evaluation of success in solfeggio studies related to modal scales, it is understood that students consider themselves successful. The rate of those who answered yes was 49.1%, the rate of those who answered not sure was 33.4%, and the rate of those who answered no was 17.3%. Here, it is seen that approximately half of the students think they are successful in solfeggio studies related to modal scales. This situation may be due to their cultural proximity to modal music.

Students' Self-Evaluation of Success in Analysis Studies Related to Modal Scales

When students' self-evaluation of success in analysis studies related to modal scales is examined, a rate of 34.2% is observed. A student's feeling of competence in analysis studies depends on having sufficient knowledge of the subject. It is not possible for an individual without sufficient knowledge and background to conduct analytical work on any subject. Here, it is considered that cognitive deficiencies cause students not to feel competent in analysis studies. Dictation studies also require certain cognitive competencies. However, when previous tables are examined, it is seen that students consider themselves more competent in solfeggio studies compared to dictation and analysis studies. This situation may be said to result from the recognition of modal structures used in solfeggio studies due to cultural factors and from students being more familiar with modal works, which increases their success in solfeggio studies.

Students' Recognition of the Hüseyni Makam

When students' recognition of the Hüseyni makam is examined, it is observed that there is no difference between grade levels and that only a very small number of students recognize this makam.

Students' Ability to Write Level-Appropriate Melody Dictations in Hüseyni Makam

It was observed that the rate of students who consider themselves successful in writing level-appropriate melody dictations in Hüseyni makam is 23.1%. It is understood that students do not consider themselves successful in dictation studies related to this makam. This situation suggests that the cognitive process required in dictation studies is not sufficient.

Students' Ability to Read Level-Appropriate Solfeggio Written in Hüseyni Makam

Parallel to the results obtained regarding students' self-evaluation of success in analysis studies related to modal scales, it is seen that the rate of students' ability to read level-appropriate solfeggio written in Hüseyni makam is higher than dictation studies, at 48.3%. This situation may be considered to result from students' affective familiarity with modal structures.

Students' Ability to Analyze a Work Written in Hüseyni Makam

Parallel to students' self-evaluation of success in modal analysis studies, it is seen that, with a very small difference, the rate of analyzing a work written in Hüseyni makam is 33.4%.

Students' Ability to Distinguish the Hüseyni Makam Scale from Tonal Scales

When students' ability to distinguish the Hüseyni makam scale from tonal scales is examined, it is seen that the rate decreases further compared to their ability to analyze the Hüseyni scale. This situation is considered to result from the insufficient establishment of tonal–modal relationships.

Students' Recognition of the Kürdi Makam

When students' recognition of the Kürdi makam is examined, it is seen that among 10th-grade students the rate of yes responses is lower than the rates of not sure and no responses. Among 11th-grade students, the rate of yes responses is very close to the rate of no responses. Among 12th-grade students, the rate of yes responses is approximately five times higher than the rate of no responses. This situation may be due to increased knowledge of tone and makam.

Students' Ability to Write Level-Appropriate Melody Dictations in Kürdi Makam

It is seen that the rate of students who consider themselves successful in writing level-appropriate melody dictations in Kürdi makam is 20.6%. Forty percent of the students stated that they were not sure. It is understood that students do not consider themselves successful in dictation studies related to this makam. This situation suggests that sufficient dictation studies in Kürdi makam have not been conducted.

Students' Ability to Read Level-Appropriate Solfeggio Written in Kürdi Makam

It is observed that the rate of students' ability to read level-appropriate solfeggio written in Kürdi makam is 44.2%. When compared with the rates of not sure and no responses, the rate of yes responses is higher.

Students' Ability to Analyze a Work Written in Kürdi Makam

In students' ability to analyze a work written in Kürdi makam, it is seen that among 10th- and 11th-grade students, the rate of yes responses is approximately half the rate of not sure responses. Similar to the rate of analysis ability related to modal scales, it is considered that cognitive deficiencies cause students not to feel competent in analysis studies.

Students' Ability to Distinguish the Kürdi Makam Scale from Tonal Scales

When students' ability to distinguish the Kürdi makam scale from tonal scales is examined, it is seen that the rate of yes responses is lower than the rates of not sure and no responses. This situation may be considered to result from the insufficient establishment of tonal-modal relationships.

Students' Recognition of the Hicaz Makam

Students' recognition of the Hicaz makam appears as 57.4%. This rate is higher than the recognition rates of Hüseyni and Kürdi makams. Especially when the rates of 12th-grade students are examined, the rate of those who do not recognize the Hicaz makam is 0.4%. It is considered that students are cognitively and affectively more competent in this makam compared to others.

Students' Ability to Write Level-Appropriate Melody Dictations in Hicaz Makam

It is seen that the rate of students who consider themselves successful in writing level-appropriate melody dictations in Hicaz makam is 44.6%. Among 10th- and 11th-grade students, the rates of yes and no responses are very close. The success rate of 12th-grade students in writing level-appropriate melody dictations in this makam is approximately seven times higher than the rate of unsuccessful students. This situation indicates that 12th-grade students can sufficiently write level-appropriate melody dictations in this makam.

Students' Ability to Read Level-Appropriate Solfeggio Written in Hicaz Makam

The rate of students' ability to read level-appropriate solfeggio written in Hicaz makam is 51.1%. Compared to 10th- and 11th-grade students, 12th-grade students show higher success. This situation may be considered an indicator of greater experience among 12th-grade students.

Students' Ability to Analyze a Work Written in Hicaz Makam

When students' ability to analyze a work written in Hicaz makam is examined, it is seen that the level of analysis is 42.9%. No significant difference in analysis ability is observed among grade levels. At the same time, it is difficult to state that recognition rates of the Hicaz makam are low.

Students' Ability to Distinguish the Hicaz Makam Scale from Tonal Scales

When students' ability to distinguish the Hicaz makam scale from tonal scales is examined, it is seen that among 10th- and 11th-grade students the rate of yes responses is lower than the rate of no responses. Among 12th-grade students, similar to their recognition of this makam, their ability to write level-appropriate melody dictations, read level-appropriate solfeggio, and analyze works written in this makam, the rate of yes responses is significantly higher than the rate of no responses. This situation may be considered an indicator that 12th-grade students are more experienced compared to students in other grades.

Post-Test Application Results

Following the pre-test conducted in Kütahya, Isparta, Denizli, and Uşak Fine Arts and Sports High Schools, application studies were initiated in Kütahya, and through the post-test conducted at the end of these studies, the usability of the Acay approach was attempted to be determined. The findings obtained from this post-test are presented below.

Implementation of the Research Post-Test Scale in Kütahya Fine Arts and Sports High School

The Sefai Acay approach was implemented in Kütahya Fine Arts and Sports High School, which constituted the post-test experimental group. A total of 76 students participated in the research, including 29 from the 9th grade, 16 from the 10th grade, 18 from the 11th grade, and 13 from the 12th grade. The highest number of participants among grade levels consisted of 9th-grade students. The lower number of 12th-grade students in the post-test was due to the approaching university entrance examination. Since some students received medical reports, the post-test was administered to a smaller number of 12th-grade students. The Kütahya pre-test and post-test results are presented below through comparison within the same table (Table 1 and 2).

When the table is examined in general, the rate of those who were successful in analysis studies related to modal scales was 23.0% in the pre-test and 26.3% in the post-test. When the pre-test and post-test results in this table are compared, it is seen that there is an increase in the rate of those who think they are successful in analysis studies related to modal scales, while there is a decrease in the rates of those who are unsure and those who do not consider themselves successful. From this, it has been concluded that the Acay approach increases success in analysis studies related to modal scales.

When the table is examined, students' recognition of the Hüseyni makam shows a highly significant and meaningful increase in the post-test. A noticeable decrease is observed in the rate of those who think they do not recognize the Hüseyni makam, from 38.4%

Table 1: Students' Self-Evaluation of Success in Analysis Studies Related to Modal Scales

	I am successful in analysis studies related to modal scales.															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	3	3.9	0	0	16	21.0	0	0	10	13.1	0	0	29	38.1
10th Grade	4	7.6	10	13.1	6	11.5	5	6.5	7	13.4	1	1.3	17	32.6	16	21.0
11th Grade	4	7.6	5	6.5	8	15.3	7	9.2	8	15.3	6	7.8	20	38.4	18	23.6
12th Grade	4	7.6	2	2.6	6	11.5	10	13.1	5	9.6	1	1.3	15	28.8	13	17.1
Total	12	23.0	20	26.3	20	38.4	38	50.0	20	38.4	18	23.6	52	100	76	100

Table 2: Students' Recognition of the Hüseyni Makam

	I recognize the Hüseyni Makam															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	13	17.1	0	0	15	19.7	0	0	1	1.3	0	0	29	38.1
10th Grade	1	1.9	15	19.7	5	9.6	1	1.3	11	21.1	0	0	17	32.6	16	21.0
11th Grade	3	5.7	8	10.5	8	15.3	9	11.8	9	17.3	1	1.3	20	38.4	18	23.6
12th Grade	7	13.4	11	14.4	8	15.3	1	1.3	0	0	1	1.3	15	28.8	13	17.1
Total	11	21.1	47	61.8	21	40.3	26	34.2	20	38.4	3	3.9	52	100	76	100

to 3.9%. From this, it has been concluded that the Acay approach has an effect on students' recognition of the Hüseyni makam. Accordingly, it is considered that the Acay approach can be used in teaching the Hüseyni makam (Table 3).

An increase is observed in the rate of those who think they can analyze a work written in Hüseyni makam. The nearly twofold increase in the belief that they can analyze indicates that the Acay approach improves analysis skills (Table 4).

The increase observed in students' belief that they can distinguish the Hüseyni makam from tonal scales reveals that the Acay approach is effective (Table 5).

According to the findings presented in the table regarding recognition of the Kürdi makam, a significant increase is observed in students' recognition of the Kürdi makam. This situation indicates that the Acay

Table 3: Students' Ability to Analyze a Work Written in Hüseyni Makam

	I can analyze a work written in Hüseyni Makam															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	F	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	7	9.2	0	0	11	14.4	0	0	11	14.4	0	0	29	38.1
10th Grade	2	3.8	12	15.7	5	9.6	3	3.9	10	19.2	1	1.3	17	32.6	16	21.0
11th Grade	7	13.4	6	7.8	5	9.6	8	10.5	8	15.3	4	5.2	20	38.4	18	23.6
12th Grade	6	11.7	3	3.9	7	13.4	8	10.5	2	3.8	2	2.6	15	28.8	13	17.1
Total	15	28.8	28	36.8	17	32.6	30	39.4	20	38.4	18	23.6	52	100	76	100

Table 4: Students' Ability to Distinguish the Hüseyni Makam Scale from Tonal Scales

	I can distinguish the Hüseyni Makam Scale from tonal scales															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	5	6.5	0	0	13	17.1	0	0	11	14.4	0	0	29	38.1
10th Grade	3	5.7	9	11.8	4	7.6	7	9.2	10	19.2	0	0	17	32.6	16	21.0
11th Grade	2	3.8	5	6.5	10	19.2	7	9.2	8	15.3	6	7.8	20	38.4	18	23.6
12th Grade	8	15.3	4	5.2	6	11.3	8	10.5	1	1.9	1	1.3	15	28.8	13	17.1
Total	13	25.0	23	30.2	20	38.4	35	46.0	19	36.5	18	23.6	52	100	76	100

Table 5: Students' Recognition of the Kürdi Makam

	I can recognize the Kürdi Makam															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	15	19.7	0	0	10	13.1	0	0	4	5.2	0	0	29	38.1
10th Grade	1	1.9	16	21.0	4	7.6	0	0	12	23.0	0	0	17	32.6	16	21.0
11th Grade	5	9.6	9	11.8	6	11.5	6	7.8	9	17.3	3	3.9	20	38.4	18	23.6
12th Grade	7	13.4	9	11.8	6	11.5	3	3.9	2	3.8	1	1.3	15	28.8	13	17.1
Total	13	25.0	49	64.4	16	30.7	19	25.0	23	44.2	8	10.5	52	100	76	100

approach can be used in introducing the Kürdi makam to students. It is understood that the Acay approach is a useful method in teaching makams (Table 6).

A highly noticeable increase is observed in the rate of those who state that they can analyze a work written in Kürdi makam. The increase from 15.3% to 35.5% indicates that the Acay approach is effective in developing the ability to analyze musical works. A significant decrease is also observed in the rate of those who state that they cannot distinguish it. It has been concluded that the Acay approach is effective in analyzing works (Table 7).

The increase from 19.2% to 31.5% in students' ability to distinguish the Kürdi makam from tonal scales, approximately a 22.3% increase, indicates that the Acay approach is effective in distinguishing the Kürdi makam from tonal scales. From this, it has been concluded that the Acay approach is effective in distinguishing the Kürdi makam from tonal scales and increases success (Table 8).

Table 6: Students' Ability to Analyze a Work Written in Kürdi Makam

	I can analze a work written in Kürdi Makam															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	6	7.8	0	0	11	14.4	0	0	12	15.7	0	0	29	38.1
10th Grade	1	1.9	12	15.7	6	11.5	4	5.2	10	19.2	0	0	17	32.6	16	21.0
11th Grade	4	7.6	5	6.5	7	13.4	7	9.2	9	17.3	6	7.8	20	38.4	18	23.6
12th Grade	3	5.7	4	5.2	10	19.2	7	9.2	2	3.8	2	2.6	15	28.8	13	17.1
Total	8	15.3	27	35.5	23	44.2	29	38.1	21	40.3	20	26.3	52	100	76	100

Table 7: Students' Ability to Distinguish the Kürdi Makam Scale from Tonal Scales

	I can distinguish the Kürdi Makam Scale from tonal scales															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	3	3.9	0	0	15	19.7	0	0	11	14.4	0	0	29	38.1
10th Grade	1	1.9	12	15.7	8	15.3	4	5.2	8	15.3	0	0	17	32.6	16	21.0
11th Grade	3	5.7	4	5.2	7	13.4	9	11.8	10	19.2	5	6.5	20	38.4	18	23.6
12th Grade	6	11.5	5	6.5	8	15.3	8	10.5	1	1.9	0	0	15	28.8	13	17.1
Total	10	19.2	24	31.5	23	44.2	36	47.3	19	36.5	16	21.0	52	100	76	100

Table 8: Students' Recognition of the Hicaz Makam

	I recognize the Hicaz Makam															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	18	23.6	0	0	8	10.5	0	0	3	3.9	0	0	29	38.1
10th Grade	5	9.6	16	21.0	7	13.4	0	0	5	9.6	0	0	17	32.6	16	21.0
11th Grade	10	19.2	9	11.8	3	5.7	6	7.8	7	13.4	3	3.9	20	38.4	18	23.6
12th Grade	12	23.0	12	15.7	3	5.7	1	1.3	0	0	0	0	15	28.8	13	17.1
Total	27	51.9	55	72.3	13	25.0	15	19.7	12	23.0	6	7.8	52	100	76	100

When students' recognition of the Hicaz makam is examined, a significant increase is observed between the pre-test and post-test in the rate of yes responses. This increase, rising from 51.9% to 72.3%, is considered to result from the contribution of the Acay approach to learning processes. From this, it has been concluded that the Acay approach makes a significant contribution to students' recognition of the Hicaz makam and that using this teaching method in introducing the Hicaz makam would be beneficial (Table 9).

Although it appears that the Acay approach has no effect on students' ability to analyze a level-appropriate work written in Hicaz makam, it is considered that this result may be due to insufficient practice related to the subject (Table 10).

It is understood that the Acay approach is not effective in students' ability to distinguish the Hicaz makam scale from tonal scales.

Findings Related to the Second Sub-Problem

The second sub-problem of the research was determined as:

"Has a significant change occurred in students' cognitive development related to modal scales as a result of instruction based on the Sefai Acay approach?" and the data obtained are presented below in Table 11.

In the pre-test conducted with the Fine Arts and Sports High School determined as the experimental group, works in three different makams were given to 52 students together with the self-assessment form, and they were asked to cognitively identify the makams of these works. Of these 52 students, 17 were 10th-grade students, 20 were 11th-grade students, and 15 were 12th-grade students. It was concluded that 40 students did not cognitively recognize the Hüseyni makam, 42 students did not recognize the Kürdi makam, and 44 students did not recognize the Hicaz makam. The pre-test was not administered to 9th-grade students because the pre-test was applied to the experimental group during the fall semester. Considering that 9th-grade students had newly started music education in the fall semester and that they needed to know major and minor scales in order

Table 9: Students' Ability to Analyze a Work Written in Hicaz Makam

	I can analyze a work written in Hicaz Makam															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	6	7.8	0	0	8	10.5	0	0	15	19.7	0	0	29	38.1
10th Grade	7	13.4	13	17.1	3	5.7	2	2.6	7	13.4	1	1.3	17	32.6	16	21.0
11th Grade	6	11.5	7	9.2	6	11.5	7	9.2	8	15.3	4	5.2	20	38.4	18	23.6
12th Grade	8	15.3	5	6.5	5	9.6	7	9.2	2	3.8	1	1.3	15	28.8	13	17.1
Total	21	40.3	31	40.7	14	26.9	24	31.5	17	32.6	21	27.6	52	100	76	100

Table 10: Students' Ability to Distinguish the Hicaz Makam Scale from Tonal Scales

	I can distinguish the Hicaz Makam Scale from the tonal scales															
	Yes				Not Sure				No				Total			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
Grade	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
9th Grade	0	0	3	3.9	0	0	10	13.1	0	0	16	21.0	0	0	29	38.1
10th Grade	6	11.5	12	15.7	3	5.7	4	5.2	8	15.3	0	0	17	32.6	16	21.0
11th Grade	4	7.6	6	7.8	6	11.5	8	10.5	10	19.2	4	5.2	20	38.4	18	23.6
12th Grade	9	17.3	4	5.2	5	9.6	9	11.8	1	1.9	0	0	15	28.8	13	17.1
Total	19	36.5	25	32.8	14	26.9	31	40.7	19	36.5	20	26.3	52	100	76	100

to learn the Acay approach, 9th-grade students were not included in the pre-test. However, they were included in the experimental group, lessons related to the Acay approach, primarily major and minor scales, were taught to them, and then the post-test was administered. The post-test was conducted in the spring semester. With the consideration that students needed to know major and minor scales in order to understand the Acay approach, tonality was first taught to 9th-grade students in the spring semester, and then the Acay approach was explained (Table 12).

The post-test was administered to 76 students. Of these, 29 were 9th-grade students, 16 were 10th-grade students, 17 were 11th-grade students, and 14 were 12th-grade students. When the learning status of modal pieces among 10th-grade students is examined, it is seen that all students correctly identified the makams of all pieces except for one student who did not recognize the 3rd piece in the

Table 11. Experimental Group Students' Recognition of Makams at the Cognitive Level in the Pre-Test

	Grades												Total			
	10th Grade				11th Grade				12th Grade							
	Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know	
Makam of the Work	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Hüseyni	4	7.6	13	25.0	2	3.8	18	34.6	6	11.5	9	17.3	12	23.0	40	76.9
Kürdi	3	5.7	14	26.9	3	5.7	17	32.6	4	7.6	11	21.1	10	19.2	42	80.7
Hicaz	2	3.8	15	28.8	4	7.6	16	30.7	2	3.8	13	25.0	8	15.3	44	84.6
Total	17 people ~ % 32.6				20 people ~ % 38.4				15 people ~ %28.8				52 people ~ % 100			

Table 12: Experimental Group Students' Recognition of Makams at the Cognitive Level in the Post-Test

	Grades																Total			
	9th Grade				10th Grade				11th Grade				12th Grade							
	Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know	
Makam of the Work	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Work 1 (Hüseyni)	26	34.2	3	3.9	16	21.0	0	0	11	14.4	6	7.8	13	17.1	1	1.3	66	86.8	10	13.1
Work 2 (Hüseyni)	22	28.9	7	9.2	16	21.0	0	0	11	14.4	6	7.8	12	15.7	2	2.6	61	80.2	15	19.7
Work 3 (Hüseyni)	24	31.5	5	6.5	15	19.7	1	1.3	5	6.5	12	15.7	10	13.1	4	5.2	54	71.0	22	28.9
Work 4 (Hüseyni)	15	19.7	14	18.4	16	21.0	0	0	5	6.5	12	15.7	7	9.2	7	9.2	43	56.5	33	43.4
Work 5 (Kürdi)	28	36.8	1	1.3	16	21.0	0	0	7	9.2	10	13.1	10	13.1	4	5.2	61	80.2	15	19.7

Makam of the Work	Grades																Total			
	9th Grade				10th Grade				11th Grade				12th Grade							
	Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know		Knows		Doesn't know	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Work 6 (Kürdi)	**27**	35.5	**2**	2.6	**16**	21.0	**0**	0	**6**	7.8	**11**	14.4	**11**	14.4	**3**	3.9	**60**	78.9	**16**	21.0
Work 7 (Kürdi)	**27**	35.5	**2**	2.6	**16**	21.0	**0**	0	**5**	6.5	**12**	15.7	**10**	13.1	**4**	5.2	**58**	76.3	**18**	23.6
Work 8 (Kürdi)	**24**	31.5	**5**	6.5	**16**	21.0	**0**	0	**5**	6.5	**12**	15.7	**13**	17.1	**1**	1.3	**58**	76.3	**18**	23.6
Work 9 (Hicaz)	**18**	23.6	**11**	14.4	**16**	21.0	**0**	0	**8**	10.5	**9**	11.8	**8**	10.5	**6**	7.8	**50**	65.7	**26**	34.2
Work 10 (Hicaz)	**24**	31.5	**5**	6.5	**16**	21.0	0	0	**7**	9.2	**10**	13.1	**12**	15.7	**2**	2.6	**59**	77.6	**17**	22.3
Total	29 people ~ % 38.1				16 people ~ % 21.0				17 people ~ % 22.3				14 people ~ % 18.4				76 people ~ % 100			

Table 13: Comparison of Experimental Group Students' Recognition of Makams at the Cognitive Level in the Pre-Test and Post-Test

Makam of the Work	Pre-test						Post-test					
	Correct Answer		Wrong Answer		Total Students		Correct Answer		Wrong Answer		Total Students	
	f	%	f	%	f	%	f	%	f	%	f	%
Hüseyni	12	**23.0**	40	76.9	52	100	56	**73.6**	20	26.3	76	100
Kürdi	10	**19.2**	42	80.7	52	100	59	**77.6**	17	22.3	76	100
Hicaz	8	**15.3**	44	84.6	52	100	55	**72.3**	21	27.6	76	100

Hüseyni makam. When the results of the 9th- and 12th-grade students are examined, the number of students who correctly identified the makams of the pieces is higher than those who did not. When the results of the 11th-grade students are examined, it is observed that only in the 1st and 2nd pieces the rate of those who correctly identified the makam is higher than those who did not. For the other pieces, the number of students who correctly identified the makams is almost half the number of those who did not (Table 13)..

When Table 13 is examined, it is seen that there is a significant increase between the pre-test and post-test results of the experimental group students in terms of cognitively recognizing modal scales. In the pre-test, the rates of incorrect responses in all three makams are notably high. This situation indicates that students did not initially possess sufficient cognitive acquisition in distinguishing modal scales. However, in the post-test results, the rates of incorrect responses decreased significantly. The findings obtained reveal that the instructional approach used during the implementation process significantly improved students' abilities to recognize modal scales. Particularly, although the Hicaz makam initially had the lowest rate of correct responses, the considerable increase observed in the post-test supports the effectiveness of the instructional process across different makams. As a result, the table shows that the implementation carried out in the experimental group made a positive contribution to the cognitive-level learning of modal scales.

Conclusion and Recommendations

In this study, the readiness levels of Fine Arts High School Music Department students regarding modal scales were examined, and the effect of the Sefai Acay approach on teaching modal scales in Musical Ear Training, Reading, and Writing courses was evaluated.

The findings obtained indicate that before the implementation, students did not possess sufficient cognitive levels in recognizing, analyzing, and distinguishing modal scales from tonal scales. Especially in the pre-test results, it was observed that the rates of correct responses related to the Hüseyni, Kürdi, and Hicaz makams were low, while the rates of incorrect responses were high. This situation suggests that existing teaching methods are not sufficiently effective in the cognitive comprehension of modal scales. The post-test results conducted after the implementation process revealed a significant increase in the levels of recognizing modal scales. The increase in the correct response rate from 23.0% to 73.6% in Hüseyni makam, from 19.2% to 77.6% in Kürdi makam, and from 15.3% to 72.3% in Hicaz makam demonstrates that the Acay approach provides a significant contribution to cognitive learning. The noticeable decrease in incorrect response rates also supports this finding. Although increases were observed in analysis ability and in distinguishing modal scales from tonal scales, it was understood that this development was not as high as the increase in recognition levels of makams. This situation shows that recognizing modal structures can develop in a relatively shorter time, whereas analytical thinking and comparative cognitive processes require longer-term and systematic instruction. When evaluated overall, it has been concluded that the Sefai Acay approach is a usable and systematic teaching model that contributes to students' cognitive development in teaching modal scales.

In line with these results, the following recommendations can be made:

- Makam instruction in Fine Arts and Sports High Schools Musical Ear Training, Reading, and Writing curricula can be designed according to this approach.
- Necessary initiatives should be undertaken to ensure that the Board of Education of the Ministry of National Education becomes informed about this approach.
- Practical applications of this approach should be disseminated across all institutions providing vocational music education through in-service training seminars.

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