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REVIEW OF BEGINNER-LEVEL GUITARS FROM A TECHNICAL, MUSICAL, AND STRUCTURAL POINT OF VIEW: THE CASE OF TURKEY[*]

Şerif GAYRETLİ[**]

Abstract

The demand caused by the decreasing number of tree species used in guitar production every day is being tried to be met with artificial materials in the 21st century. Guitars are produced mainly in countries where cheap labor and materials are sold at affordable prices, attracting much attention in Turkey and the rest of the world. This type of guitar, sold in some chain markets in Turkey several times a year, attracts the attention of those who mainly want to get a guitar education at the beginner level. This research aims to determine the technical, musical, and structural competence level of imported guitars used at the beginner level in Turkey. In the research conducted in the case study pattern, we studied five people who are experts in their field. "Guitar Technical and Musical Evaluation Form" and "Guitar Structural Evaluation Form" were used as data collection tools by expert opinions. The obtained data were analyzed with the appropriate computer program. The content analysis of the answers given to the open-ended questions was carried out. As a result of the research, it has been found that the guitars in question are regular in appearance, but they are technically and musically found to be incompetent. However, it has been found that the guitars are structurally proportional, but the wood quality needs to be improved. All experts have stated that these instruments have an intonation problem and are unsuitable for guitar education. As a result of the research, it is proposed to officially determine the standards of guitars and allow their import within the framework of these standards.

Keywords: *Music education, Guitar education, Guitar, Instrument, Musical instrument quality.*

Başlangıç Düzeyi Gitarların Teknik Müzikal ve Yapısal Açıdan İncelenmesi: Türkiye Örneği

Öz

Gitar yapımında kullanılan ağaç türlerinin her geçen gün azalmasıyla ortaya çıkan talep, 21. yüzyılda yapay malzemelerle karşılanmaya çalışılmaktadır. Özellikle işgücünün ve malzemenin ucuz olduğu ülkelerde üretilen gitarlar, uygun fiyata satıldıkları için tüm dünyada olduğu gibi Türkiye'de de ilgi görmektedirler. Türkiye'de bazı zincir marketlerin yıl içerisinde birkaç defa satışa sunduğu bu tip gitarlar, özellikle başlangıç seviyesinde gitar eğitimi almak isteyenlerin ilgisini çekmektedir. Bu araştırmada Türkiye'de başlangıç seviyesinde kullanılan ithal gitarların teknik, müzikal ve yapısal yönden yeterliliğinin ne düzeyde olduğu amaçlanmıştır. Durum çalışması deseninde yürütülen araştırmada, alanında uzman olan 5 kişi ile çalışılmıştır. Veri toplama araçları olarak uzman görüşleri doğrultusunda "Gitar Teknik ve Müzikal Değerlendirme Formu" ve "Gitar Yapısal Değerlendirme Formu" kullanılmıştır. Elde edilen veriler uygun bilgisayar programı ile analiz edilmiştir. Açık uçlu soruya verilen yanıtların içerik analizi yapılmıştır. Araştırma sonucunda söz konusu gitarların görünüm olarak normal olduğu ancak teknik ve müzikal anlamda yetersiz olduğu görülmüştür. Bununla birlikte gitarların yapısal olarak orantılı olduğu ancak ağaç kalitesinin yetersiz olduğu tespit edilmiştir. Tüm uzmanlar bu çalgıların entonasyon sorunu olduğunu ve gitar eğitimine uygun olmadığını ifade etmişlerdir. Araştırma sonucunda gitarların resmi olarak standartlarının belirlenmesi ve bu standartlar çerçevesinde ithalatına izin verilmesi önerilmektedir.

Anahtar Kelimeler: *Müzik eğitimi, Gitar eğitimi, Gitar, Çalgı kalitesi.*

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[**] Dr. Öğr. Üyesi, Dicle Üniversitesi Devlet Konservatuvarı Türk Müziği Bölümü, serif.gayretli@hotmail.com, https://orcid.org/0000-0002-4517-8561

1. Introduction

The human being's quest to make sounds from different instruments in a musical sense has been going on for thousands of years. Eighty thousand years ago, the instruments made by Neanderthals from flutes and bows obtained from reeds (Attali, 2001, p. 44) have developed and helped humanity to express its emotions up to the present day. Instruments, which developed depending on geography and culture, have become the most critical factor of musical culture by enriching the musical expressions of societies (Kınık, 2011). String instruments such as Harp, Lyre, Chitara, and Rebap have inspired the invention of different instruments in the historical process (Güzel, 1994, p. 85). However, since the primary material of such instruments is wood, very few examples are found in the 21st century. The guitar, one of the popular instruments of the 21st century, takes its name from the "Kithara" in the Ancient Greek civilization. The Hittite relief, defined as "a Person Playing Guitar," suggests that the origin of the guitar is the Anatolian geography (Chapman, 2000, p. 10; Sheriff, 2012). It is known that Guitar-like instruments passed from the Egyptians to the Ancient Greeks and Romans reached the European continent in the 8th century with the conquest of Spain by Arabs (Ammer, 2004, p. 169; Elmas, 2003, p. 13). With the addition of the fifth string to the 4-string guitar in the 17th century, the vocal range of the guitar was expanded, and the guitar's popularity increased on the European continent with the increase of the bass effect (Noad, 2000). In the 18th century, with the addition of the sixth string by the German Jakob August Otto (1760-1829), the guitar reached the structure used today (Elmas, 2003, p. 17). In addition to the 6-string guitar made by the Italian Gaetano Vinaccia in 1779, Stradivarius is known to have produced several guitars. The Spanish Luthier Antonia de Torres Jurado (1817-1892) made a radical change in the guitar, and he is known to have shaped the guitar considered the standard guitar of today (Elmas, 2003, p. 19; Rossing & Caldersmith, 2010, p. 19). The Torres guitar is considered one of the most critical developments in guitar history regarding the techniques, measurements, and sound structure used at the production stage (Uluocak, 2015). At the beginning of the 19th century, with the introduction of the six-string guitar to England, there were significant developments in guitar production in the country. The guitar production school, which was opened under the leadership of Louis Panormo (1784-1862), influenced many producers and performers with the guitars it produced, enabling the most productive period in the history of guitar production to be experienced (Westbrook, 2013, p. 571). The rare occurrence and late growth of trees used in guitar-making became a problem in the 20th century.

In general, light and hardwoods are preferred for making instruments. These trees produce appropriate sounds but can also bear the load the strings apply (Gonzalez et al., 2022). The guitars produced at the end of the 19th century and the beginning of the 20th century were made of materials such as West Indian mahogany, Brazilian rosewood, African ebony, tortoiseshell, and ivory (Bennett, 2016, p. 4). However, their trade was prohibited or restricted because these resources were limited. For example, the trade of Brazilian rosewood, which is rare and takes centuries to grow, was restricted by the government in 1969 (Jasch, 2007). Different types of trees are commonly preferred in guitar making for each region. Trees such as Spruce, Cedar, and Redwood are generally used on the upper parts, while trees such as Mahogany, Rosewood, or Maple are used for the sides and ridges (Fletcher & Rossing, 1998, p. 239). The fact that the use of these tree species is limited and the demand is high has led producers to new sources. Therefore, many producers have turned to tropical hardwoods such as Ovangkol, Sapele, Cocobolo, Bubinga, and Koa (French, 2007) or other rose trees such as Amazonian rosewood, Cambodian and Madagascan rosewood (Jasch, 2007). However, it took many years for these trees to reach the size suitable for instrument-making, which limited the continuity of resources (Gibson & Warren, 2016, p. 434). Thanks to the Industrial Revolution, radical technological changes have also been observed in instrument production. Different methods and techniques used in instrument making have significantly changed instrument production speed and quality. Thanks to technology, the

composite materials used in many fields have become important in wood products (Turan, 2022). Since composite materials are easy to process and are durable and cheap, this situation has led instrument producers to use this material (Lessard, 2011). Additionally, the fact that the instruments produced from composite materials have a certain standard and the easiness of raw material production has been one of the important factors in the spread of instruments produced from composite materials globally. Furthermore, composite materials can be produced anywhere, which has created new opportunities for different countries in instrument making.

The global economy model, which gained momentum after World War II, has led to major changes in the production of countries where labor is cheap. China, which uses its dense population and cheap labor in favor of production, has become the second-largest economy in the world in the 21st century (Özekicioğlu & Kılıç, 2017; Yılmaz, 2012). Due to its low production costs, China, an economic power worldwide, is one of the most important actors in producing fabricated instruments, hand in hand with other products. Composite or hybrid Chinese-made instruments used in many countries attract attention in Turkey, too. The demand for these instruments, which are easily accessible in Turkey thanks to chain markets and the Internet, is increasing daily.

The chain markets, which became widespread in Turkey in the 1990s, currently serve thousands of stores where cosmetics, cleaning, and primary food products, especially foodstuffs, are sold to put such products in the market without intermediaries (Öztürk, 2017, p. 199). These stores are managed from a single center and have a fairly high purchase rate (Mucuk, 2007, p. 279), expanding their Market Share by increasing their product variety daily. Among this variety, instruments made in China have been taking place in recent years. Among the instruments offered for sale several times a year, guitars may be preferred by consumers in terms of being cheap and easily accessible. It is vital that these instruments, which are mainly preferred by those who want to get or make others get amateur guitar education, are technically and musically competent. An instrument that is structurally proportional, easy to play, and produces a good sound will help those who want to learn the instrument to realize their goals and objectives with pleasure (Boullosa, et al., 1999; McKeown, 2023). Within this context, determining the competencies of guitars sold in chain markets in technical, musical, and structural dimensions constitutes the purpose of the research.

Problem Sentence

This research's problem sentence is as follows: “What is the competency level of guitars sold in chain markets?

Subproblems

1. What is the technical and musical competence level of guitars sold in chain markets?
2. What is the competency level of guitars sold in chain markets in structural dimensions?

2. Method

This research is designed in a case study pattern based on a qualitative research approach. "*Case study is an empirical method that explores a current phenomenon (“case”) in depth and within the context of the real world, especially in cases where the boundaries between the phenomenon and the context are not clearly decipherable*” (Yin, 2018, p. 50). Within this context, case study, which allows them to deeply understand not only what a phenomenon is, but also how, when, why or who it is (Dawidowicz, 2011, p. 11), was considered appropriate as a research method to serve the purpose of the study.

2.1. Study Group

The research study group was determined within the framework of purposeful sampling. "*Purposeful sampling is based on the assumption that the researcher wants to discover, understand, gain insight where most things can be learned*" (Merriam, 2016, p.96). Concordantly, the research was carried out with five experts in their field. The research was conducted with three guitar instructors who give amateur guitar training to evaluate the technical and musical competence of the guitar and two guitar producers to evaluate its structural competence. The participants consist of individuals with at least three years of professional experience. All participants were male and ranged in age from 25 to 32.

2.2. Steps of Process

Two guitars were used within the scope of the research. In terms of the security of the evaluation, the guitars were purchased from different branches of the same chain store. The guitars were given to the instructors to be evaluated technically and musically after physical control. During this process, the instructors were interviewed face-to-face. After the evaluation of the instructors, the same guitars were presented to the structural evaluations of the instrument producers. While a face-to-face interview was conducted with one of the instrument producers, a video conference interview was conducted with the other. It has been stated to the instrument producers that they can break the guitars if they need to. In this way, one instrument producer did not need to break it, while the other took the guitar apart to evaluate its internal parts. Instructors and instrument producers were asked to compare the guitars given to those sold at affordable prices in music stores in Turkey. The assessments of instructors and instrument producers on the open-ended question were taken considering an amateur guitar education.

2.3. Data Collection Tools

In order to evaluate the technical, musical, and structural competence of the guitar, the "Guitar Technical and Musical Evaluation Form" was used in accordance with the information obtained by scanning the relevant literature and the recommendations of three guitar instructors who are experts in their field, and the "Guitar Structural Evaluation Form" was used in accordance with the recommendations of three guitar producers. The evaluation forms have been prepared as a five-grade Likert-type questionnaire. The participants indicated their opinions by choosing one of the 'very good,' 'good,' 'average,' 'bad', and 'very bad' options for each item in the survey. At the end of the survey, an open-ended question was asked to determine the participants' thoughts on the subject. The data related to the open-ended question were recorded on audio.

Within the scope of the validity and reliability studies of the data, the questions prepared by the researcher were evaluated by three guitar instructors and three guitar producers who are experts in their field. As a result of the evaluation, the necessary adjustments were made to some items in accordance with the recommendations of experts, and the final form was given to the evaluation forms.

2.4. Analysis of the Data

The data obtained through the survey were analyzed with the appropriate computer program. The content analysis of the answers given to the open-ended questions was carried out. "*Content analysis is a research method in which several procedures are used to make valid inferences from the text. These inferences are related to the message sender(s), to the message itself, or the target audience of the message*" (Weber, 1990, p. 9). Recommendations are presented in accordance with the results of the analyses.

2.5. Reliability and Ethics

The validity and reliability of qualitative research methods are more flexible than quantitative studies. One of the ways to ensure the validity of qualitative research is to use different methods in obtaining the data and the results (variation, participant confirmation, etc.) (Sığrı, 2021, p. 141). Within this context, the data and results obtained in the research have been checked by two different academicians. According to Krefting (1991), there are four criteria for ensuring the reliability of qualitative research. These are truth value, applicability, consistency, and neutrality. In this context, two different instruments were used to ensure the truth value of the research. The instruments that are the subject of the research are accessible all over Turkey and are suitable for evaluation by different researchers in terms of similarity. This shows that the research is applicable. As a result of the research, it has been seen that the evaluations made by the two groups and the answers they gave to the open-ended question coincide. According to this result, it can be said that the research is consistent. Within the scope of the principle of neutrality, no interventions or suggestions were made to the participants during the research, and audio recordings of the evaluations and interviews were taken. The research was conducted within the framework of the rules of publication ethics. For this purpose, a necessary permit for the study has been obtained from the Chairmanship of the Social and Humanities Ethics Committee of Dicle University (E-14679147-663.05-523819).

3. Findings

This section contains the evaluation of guitar instructors and instrument producers about guitars and the findings of their answers to the open-ended question.

Findings on the Technical and Musical Competence of Guitars Sold in Chain Markets This section contains findings related to instructors' technical and musical evaluation of guitars.

Table 1

Technical and Musical Competence of Guitar

	Evaluation criteria	Too bad	Bad	Average	Good	Very good
Technique	Appearance			1	2	
	Grip and stance			2	1	
	Tuning up		1	2		
	Ease of playing	1	2			
Musical	Volume of Sound	1	2			
	Intonation	2	1			
	Timbre Quality	1	2			
	Spectral Richness (prolongation of sound)	1	2			
	Sound quality	1	2			

As can be understood from Table 1, the guitars are technically not different from other guitars in terms of appearance. Similarly, in the grip and stance position, it is understood that the guitars are at an intermediate level. It has been revealed that the tunability of the guitars is at an intermediate level, and the guitars need to be improved in terms of playing. It is observed that the sound volume of the guitars needs to be increased in a musical sense, and their intonation could be better. Additionally, it is seen that the timbre quality of the guitars is poor, their Spectral (imaginary-spectral) Richness is insufficient, and their sound quality is not at the desired level.

Findings on the Structural Competence of Guitars Sold in Chain Markets

This section includes the findings related to the structural evaluation of guitars by instrument producers.

Table 2

Structural Competence of Guitars

The Parts of The Guitar	The structure to be evaluated	Too bad	Bad	Average	Good	Very good
Body	Structure (ratio) compliance				2	
	Wood quality	2				
	Structure of beams			2		
	The wood quality of the beams	2				
	Quality of Heel and ribs	2				
	Saddle balance				2	
Fretboard	Body- fretboard angle			2		
	Fret range			2		
	Nut height		2			
	Thickness			2		
	Width			2		
	Contour (Angular structure)			2		
	Wood quality	2				
	Wire Quality	2				
Headstock	Headstock and fretboard angle			2		
	Ratio to fretboard			2		
	Peghead quality	2				
	Wood quality	2				

In Table 2, the guitar is evaluated in 3 sections. Within this context, it is seen that the body part of the guitar is proportionally good, but the wood quality is very bad. Similarly, it was found that the beams were structurally at an average level, but their wood quality was very poor. In the fretboard part of the guitars, the body fretboard angle and the fret ranges are moderate, but the saddle height is bad. However, although it is seen that the thickness, width, and angular structure of the fretboard are at a moderate level, the wood and wire quality are found to be very poor. It is observed that the angle and ratio of the headstock, which is another part of the guitars, to the fretboard, are at a moderate level, but the peghead and wood quality are very poor.

The Opinions of Guitar Educators about Guitars Sold in Chain Markets

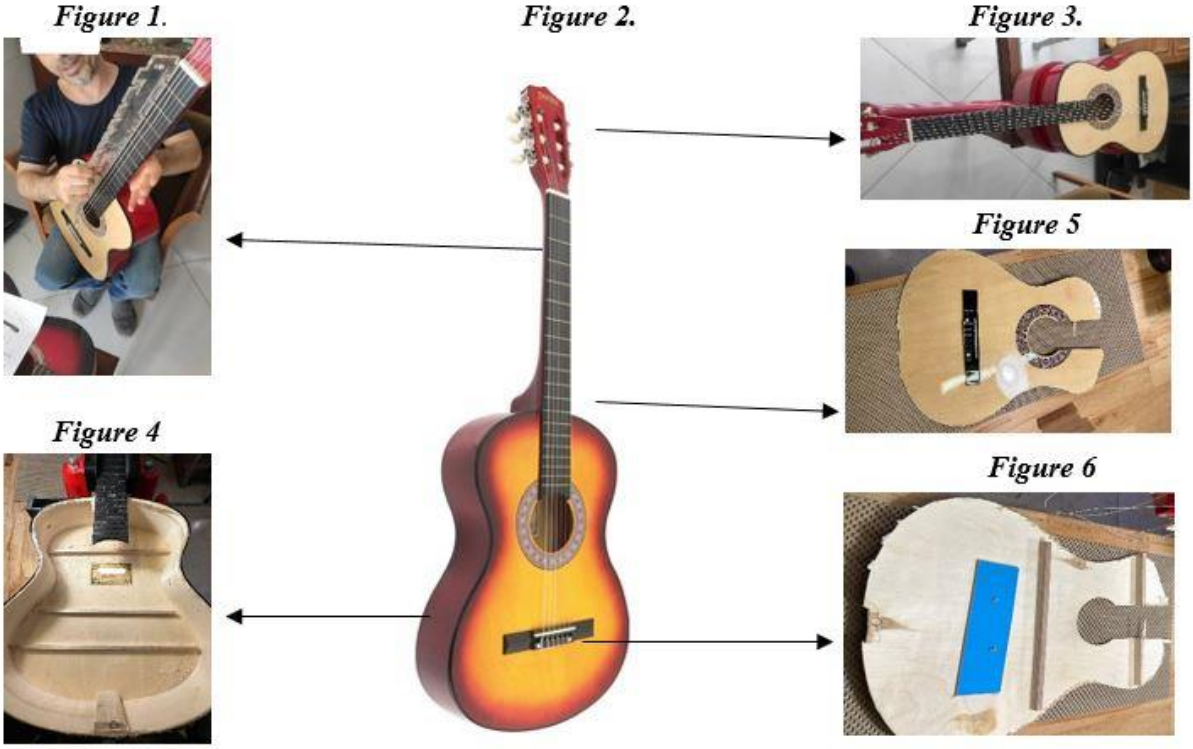
The first instructor stated, *"It is quite difficult for children to press barely on such a guitar, so I do not think using it in guitar education is appropriate. While starting education with a good guitar provides an advantage for the student, starting with a bad guitar is a big disadvantage. Parents should be more sensitive about this issue. They should not consider it just as a simple instrument purchase."*

The second instructor *said, "I have seen this guitar before. Children cannot play it after 10-15 minutes. They have problems in a physical sense. Due to the intonation problem, it affects students in a bad way in a musical sense. Such guitars are becoming more and more common, and this is causing serious problems in terms of guitar education."*

The third instructor stated, "*It may not satisfy the student because the sound quality of the guitars is not good.*"

The Opinions of Instrument Producers about Guitars Sold in Chain Markets

In this part of the research, instrument producers were asked to evaluate the guitar in general terms. In this direction, it has been stated that they can break the guitars into pieces to evaluate the guitars better. One instrument producer did not need it, while the other broke the guitar he was given into pieces. Visuals supported the evaluations of the instrument producers.



Instrument producers have stated that the guitars are not standard guitar sizes (figure 3), and the fretboard differs from standard sizes (figure 1). The guitar producer, who put the guitar into pieces, stated that there were no welts that should protect the guitar (figure 6). Both instrument producers stated that the guitar body was made of poor-quality composite material (figure 4) and was structurally unsuitable (figure 5).

The first instrument producer stated that "*Its use in education will lead to a number of problems. Its use in amateur music education will cause problems for children from an ergonomic point of view. Most importantly, it will lead to serious problems in the individual's development in holding tune due to the intonation problem. It is an instrument that cannot be repaired. It is seen that chemical paint is used. However, the content of the dye is unknown".*

The second instrument producer expressed, "*It is seen that it is an unelaborate production and is insufficient in an aesthetic sense. Such a product cannot be expected to be highly quality in chain markets. The guitar cannot fulfill its intended purpose. The use of colored paint suggests that it covers up defects. In my research on the fretboard, it seems that used wood is other than the traditionally used ones".*

4. Discussion & Conclusion

In this research, the technical, musical, and structural functionality of guitars sold in chain markets was examined in accordance with the evaluations of amateur guitar instructors and guitar producers. Due to the limited number of data available in the literature related to the subject of the study, the discussion section is based on a limited number of data.

As a result of the evaluation of the instructors who provide amateur guitar training, it has been determined that the guitars are technically at an average level in appearance, grip, and stance. However, they seem very bad in terms of tuning and playability. It is very important for individuals who are just starting to play the instrument to enjoy playing it. The common idea in society which is to start with an imperfect instrument and buying a good instrument afterwards, is not correct (Angı & Birer, 2013), because physical strength is necessary to obtain a voluminous tone from a poor-quality instrument (Uluç, 2006, p. 25). This may lead to fatigue of the individual in a short time, deterioration of his technique, and experiencing several health problems. However, Imik et al. (2014) stated that the instrument quality does not make a significant difference in the education of individuals who are just starting instrument education (İmik & Haşhaş, 2014, p. 60). The data obtained in the research shows the opposite. The 2nd instructor stated that the children get tired after 10-15 minutes with such guitars and face problems. Within this context, it can be said that individuals who start training with a quality guitar will not be physically challenged and will enjoy the learning process thanks to the beautiful timbres obtained from the guitar. In this direction, Onder (2021) stated that one of the critical factors affecting instrument performance is instrument quality (p.216) Saitis et al. (2018) stated that the instrument quality has a significant impact on the auditory experience of the individual (p.74). The most important source of professional instrument performance is amateur music education (Turkmen, 2010, p. 964). Considering this, it can be said that amateur individuals who start training with a high-quality guitar will be more likely to carry their instrument performance to a professional level, and this situation will play an essential role in the artistic development of society.

As a result of the evaluation of the instrument producers, it was found that the guitars were structurally proportional, but the wood and materials used needed to be of better quality. Since the demand for solid wood leads to a resource problem, it becomes necessary to turn to alternative sources in instrument production. Hybrid or synthetic materials are materials suitable for instrument production and cost (French et al., 2009). However, these materials also need to be of high quality and compatible with each other. Stanciu et al. (2008) stated that efficiency can be obtained from guitars produced under appropriate conditions with the suitable composite materials (p. 60). According to the obtained findings, it has been seen that the guitars that are the research subject are made of poor-quality composite materials, and they are visually, auditorily, and physically incompetent. However, it has been found that there is a significant intonation problem in guitars. According to Jasch (2007), Chinese guitars are like Chinese toys. These are usually low-quality instruments. These guitars produced in China do not contribute to music education, and foreign currency is spent on these instruments at high rates (Geboloğlu, 2017, p. 1679; Kalender, 2001, p. 164;). For example, it is seen that 2,630,950 guitars were sold globally in 2022, and the Market Share is 1,070,244,000 dollars. In this case, it turns out that each guitar costs an average of $ 433 (Music trades, 2023). According to Database (2023) data, 4,993,006 dollars worth of stringed instruments were exported from China to Turkey in 2022. The lack of state support for instrument producers in Turkey (Akyildiz, 2014) makes it mandatory to provide the instrument needs from outside. This situation makes it difficult to determine the standards of the instruments. Although there is a code (920290) related to the guitar instrument in the import regulation of the Turkish Ministry of Commerce, no details about the guitar are specified. However, it has been determined that Turkish Standards Institute (TSE) does not have a standard for guitar instruments. In

this case, it can be said that guitars coming from outside Turkey are not controlled structurally and musically.

The economic problems experienced in Turkey in recent years have made it difficult for people to access basic necessities. The poverty line announced by the United Metal-Business Class Research Center (BISAM) for the period of May 2023 is 35 thousand TL ($ 1160), while about half of the country works for 11402 TL ($ 380), which is the minimum wage (Revolutionary Trade Union Confederation [DİSK], 2023). This makes it almost impossible for parents to spend money on art. In this case, it is imperative that for the individuals to spend an amount of money for instrument education with an instrument that they can perform without problems. In this regard, it is recommended that the relevant institutions establish criteria related to instruments and control the import of instruments per these criteria. However, it is believed that if local instrument producers are supported, new job opportunities will arise, and foreign currency outflows will be restricted. Within this context, it is proposed that the relevant institutions, instrument producers, and music educators should produce solutions related to this issue on a common platform

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