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DESCRIPTION OF THE CREATION PROCESS OF AN INSTRUMENT FROM DESIGN TO PERFORMANCE THROUGH THE EXPERIENCES OF DESIGNER, LUTHIER AND PERFORMER: THE EXAMPLE OF EFECE INSTRUMENT[1]

SUBAŞI, Mutlu[2]; GEREKTEN, Sami Emrah[3]

ABSTRACT

Human beings have created, developed, and transformed instruments with their imagination in line with their musical needs. Today, it is seen that the main dynamics of such a creation process consist of a new organological or industrial idea, luthier experiences, communication between luthiers and performers, and the common experiences of all those concerned. This research is qualitative phenomenological research that aims to obtain inductive data to understand the dynamics of

[1]Some of the data from this research was presented in the form of an oral presentation entitled 'The Efece Instrument as an Experiment in Guitar Modification and Its Potential Applications in the Performance and Teaching of Traditional Music' at the 'Traditional Music and Contemporary Approaches' symposium, which was held at Hacettepe University in Ankara on 22–23 November 2024.

[2]Independent Researcher and Turkologist, mutlu.subasi@gmail.com, 0009-0002-7346-2305.
[3]Assoc. Prof., Afyon Kocatepe Unıversity, Turkish Folk Music Department, genc.sami.07@hotmail.com, 0000-0002-6362-0704.

instrument creation processes by starting from these common experiences in the example of the modified guitar named Efece, designed by Mutlu SUBAŞI. In order to describe the design, production and consumption processes of the modified instrument, the data obtained from interviews with a group of 10 people consisting of designers, luthiers and performers were subjected to content analysis.

Chronological findings on the need, aesthetic pursuit, and processes that lead the designer to modify an instrument, the measures taken by luthiers regarding the encountered and potential problems, and the performers' performance potential of the instrument are used to describe the research in detail. The article also provides information on how the string and tuning characteristics of folk instruments can be used in the design of guitar modifications. On the other hand, the potential of the modified guitar, which is finalized with the designer's imagination and the experience of the luthiers, to combine the characteristics of different instruments to perform many different musical genres, mediates the opportunities that the intersection of traditional and modern instruments can offer.

As a result, the designer's imaginative search for difference combined with the luthier's experiences to create a new modified instrument; the research findings describing this process provide important clues to designers, luthiers, and performers for similar modification processes in the future.

Keywords: Modification, modified instruments, Efece, guitar, bağlama (saz).

TASARIMDAN İCRAYA BİR ÇALGININ YARATIM SÜRECİNİN TASARIMCI, LUTİYE VE İCRACI DENEYİMLERİYLE BETİMLENMESİ: EFECE ÇALGISI ÖRNEĞİ

ÖZ

İnsanoğlu, müzikal ihtiyaçları doğrultusunda hayal gücüyle çalgıları yaratmış, geliştirmiş ve dönüştürmüştür. Günümüzde böyle bir yaratım sürecinin ana dinamiklerini; organolojik ya da endüstriyel yeni bir fikir, lutiye tecrübeleri, lutiyelerin ve icracıların iletişimi ve tüm paydaşların ortak deneyimlerinin oluşturduğu görülmektedir. Bu araştırma, Mutlu SUBAŞI tarafından tasarlanan Efece isimli modifiye gitar örneğinde bahsedilen bu ortak deneyimlerden hareket ederek çalgı yaratım süreçlerinin dinamiklerini anlamada tümevarımsal veriler elde etmeyi hedefleyen fenomenolojik desende hazırlanmış bir nitel araştırmadır. Araştırmada modifiye çalgının tasarım

üretim ve tüketim süreçlerinin betimlenebilmesi için tasarımcı, lutiye ve icracılardan oluşan 10 kişilik bir paydaş grubuyla gerçekleştirilen görüşmelerden elde edilen veriler içerik analizine tabi tutulmuştur.

Araştırmada modifikasyon fikrinin sahibi tasarımcıyı, bir çalgıyı modifiye etmeye iten ihtiyaçları, estetik arayışını ve süreçlerini, lutiyelerin karşılaşılan ve olası problemlere ilişkin aldıkları önlemleri ve icracıların çalgının performans potansiyeli eksenindeki düşüncelerini kronolojik bir şekilde belirlemek amaçlanmıştır. Ayrıca makale, gitar modifikasyonlarında halk çalgılarının tel ve akort özelliklerinin tasarımda nasıl kullanılabileceğine dair bilgiler sunmaktadır. Öte yandan, tasarımcının hayal gücü ve lutiyelerin deneyimleri ile son şeklini alan modifiye gitarın, farklı çalgıların karakteristik özelliklerini birleştirerek çok farklı müzik türlerini icra etmeye imkân tanıyan potansiyeli, geleneksel ve modern çalgıların kesişiminin sunabileceği fırsatlara aracılık yapmaktadır.

Araştırma, bir tasarımcının hayalgücüyle başlayan ve lutiyelerin deneyim ve katkılarıyla şekillenen bir yaratım sürecinde karşılaşılan problemlerden hareketle yeni bir modifiye çalgının hikayesini paylaşmakta ve araştırma bulguları sonraki benzer modifikasyon süreçleri için tasarımcı, lutiye ve icracılara önemli ipuçları sunmaktadır.

Anahtar Kelimeler: Modifikasyon, modifiye enstrüman, Efece, gitar, bağlama (saz).

INTRODUCTION

Instrument production is related to different factors affecting the development, change, and transformation of music. Using their creative imagination to meet their musical needs, humans have developed various instruments, and the development and transformation of musical instruments throughout history has been a testament to human creativity (Montagu, 2007). Mankind has produced countless instruments from many natural materials since the day it has existed, and these instruments have shown continuous development and change (Montagu, 2017). This process has extended to the present day with an evolutionary characteristic (Fletcher, 2012). This process of development and change in musical instruments has been a complex process guided by composers, artists, and instrument makers (Barclay, 2003).

This evolution of musical instruments throughout history has been in deep interaction with technological, cultural and scientific changes (Magnusson, 2021; Townsend, 2020), and these changes, together with advances in the design and structural features of instruments, have had an

impact on both the performance of music and aesthetic experiences (Bilge, 1996). Thanks to this ever-changing nature of instruments, music has continued to be enriched by the discovery of innovative and diverse sounds. In other words, musical instruments have continued to provide 'material evidence' (Aguirre-Fernandez et al., 2021) for studying the diversity and technical innovations of music across time and space. Moreover, in this process of change and transformation, the interaction between different musical instruments has played a critical role in the enrichment of musical practices and artistic expression, and these interactions have contributed greatly to the diversification of musical structures and performances, allowing musical syntheses and innovations to emerge (Goodall, 2018).

Instruments, besides harbouring auditory elements related to a music culture, allow us to access various meanings of the culture they are in, from their design to the technology used in their construction processes. In this sense, instruments as a product are shaped by personal and social experiences as well as the materials used in their construction (Dawe, 2003). The relationships between the experiences of designers, luthiers, and performers have important meanings in the process from the beginning of the design of an instrument to the production phase and the final performance in the product dimension. A phenomenological approach to this process of communication and interaction can provide a deeper understanding of how instruments are created and how these processes contribute to the evolutionary dynamics of music.

This research aims to describe the story of a guitar modification from design to production and performance in the context of the process of change and interaction in the instruments mentioned so far and the meanings attributed to the process by the musical identities that shape this process. This modified instrument, named 'Efece' by its designer[4] Mutlu Subaşı[5], was basically created to increase the potential of performers to interpret maqam music melodies such as Turkish Music in a different and rich polyphonic characteristic on a guitar-formed instrument, and as a result, a composite instrument in the form of a kind of 'fretless *bağlama*-guitar' that can be used in the

[4]Of course, simply listing the aforementioned qualities isn't enough to qualify an individual as a 'designer'. At this point, the production of original technical knowledge and practical contributions to instrument making should also be considered. In our research, however, the line between the luthiers' roles in the activities they perform and the design and creation processes of the instrument is virtually indistinguishable. The individual who assumes this role in the text is called a designer solely based on the fact that he or she envisions the instrument.

[5]The designer is the owner of the related idea and his intellectual property regarding the Efece instrument was registered with the document dated 17.12.2019 and numbered 29845 from Eskişehir 1st Notary Institution. For access to the relevant document.

performance of many musical genres has been produced. In other words, this production claims to combine, scare up, and identify some of the characteristic features of instruments such as guitar, *bağlama,* and oud in one instrument.

Among today's instruments, the guitar has a popularity as an instrument that can be widely used in almost every musical genre (Yılmaz & Şen, 2016). Apart from the well-known 6-string classical guitar form, which remains widespread today, it is also an instrument that has been used in the performance of various music in different parts of the world, with 4, 5, and 7 strings and other modifications have been made. These include Indian guitars with sympathetic strings, Brazilian guitars, Cuban 'tres', 'charango', 'guitarron', 'baja sexto', 'harp guitar', 'vihuela' and 'cavaquinhos' (Dawe, 2013; Filatova, 2023; Franco, 2022; Gurgul, 2022; Pinkerton, 2007; Wheeler, 2002; Wikipedia, 2024). It can be said that 'arpeggione', 'fretless', and 'microtonal guitars' are becoming widespread in Europe and Asia Minor (Dawe & Eroğlu, 2013).

One of the characteristic features of the guitar modification subject to the research is its relationship with the '*bağlama*' instrument. *Bağlama* is a folk instrument that has been passed down to the present day with its traditional playing styles and is used in many different musical genres besides traditional playing styles. The family of the instrument has a large number of members with different sizes and timbre characteristics (Öztürk, 2009) and has more than 15 different tuning systems (Açar, 2022), creating a very wide potential for performers.

Unlike some of the few organologically based modification studies in the literature (Zauer et al., 2016; Pilch, 2016; Can Acet et al., 2022) which are based on experiments on any part of the guitar, the research of professional musician Dan Gibson and researcher Andersen (2017) is an example of collaborative work. In the research, they describe the design process they carried out on the cello for both the production of musical sound and the complex modification and processing of the sound through software. The final version of the cello they modified in their work is presented with a new structure that combines the old and new aspects of the instrument as a whole.

In this context, this research aims to reveal the characteristics of the process by describing the dynamics of the creation process of an instrument with modification in the case of the instrument named Efece, and to obtain a holistic perspective on the common meanings of the experiences of the partners in the production and performance processes. The main question of the study is; ''What are the characteristics of the experiences shared by the designer, luthier, and performers in the

intellectual creation, production, and performance processes of a new instrument? In addition, answers to the following sub-questions are sought:

1. How can the experiences of the instrument designer regarding the design and creation processes be described?
2. What are the experiences based on designer-luties relations in the production process of the Efece instrument?
3. What clues do the experiences of musicians who perform the Efece instrument provide regarding the performance potential of the Efece instrument?

METHODOLOGY

Research Design

The research is a qualitative, phenomenological, life story narrative research. The phenomenology design is a design that reveals the common meaning of the lived experiences of several people regarding a phenomenon or a certain concept, and aims to understand the essence of the experiences of people who experience a certain phenomenon in depth (Creswell, 2018).

Life story research is a narrative design (Merriam, 2015). Narrative research is a research process in which these life experiences created through stories are made visible through narratives (Uğuz Arsu & Tekindal, 2021). The most important element of the creation, production, derivation, and development processes of an instrument is 'human', and the most important dynamic is human experiences. In this study, we chose the narrative research methodology to analyze in depth the personal experiences of people regarding a certain phenomenon. For this reason, in this study, the experiences of the designer luthier and performers who experience the modification process of an instrument in the design-production and performance stages were analysed with a life story characteristic.

Data Collection

We obtained data through face-to-face and virtual interviews, while data on the organological quantitative characteristics of the instruments were obtained through manual measurements. The reason why we preferred the interview technique was to obtain in-depth data about the experiences and thoughts of the participants by taking advantage of the flexible structure of the technique (Allmark et al., 2009). Before the interview process, the designer first delivered the instrument to the relevant performers in order for them to gain performing experience. The participants

performed a total of 64 hours[6] with the Efece instrument. Snowball sampling method was utilised to reach the performers. Criterion sampling, one of the purposeful sampling types, was adopted in determining the study group from which the interview data were obtained. The criterion is to take part as a designer, luthier, and performer stakeholder in any of the processes of creation, design, production, and performance of the Efece instrument. In criterion sampling, a certain situation is determined as a criterion, and the participants who meet the criterion are included in the study group. Criterion sampling is preferred because of its usefulness in obtaining in-depth and meaningful data (Patton, 2002). The designer and the luthiers in the production process of the instrument were naturally included in the study group of the research, and in the determination of the individuals who will take part as performers, some competence elements were sought on the basis of having the experience of playing Efece. Among these criteria, it was adopted as a criterion that they reflect the *bağlama*, guitar, and *bağlama*-guitar hybrid instrument types at a professional level. The participants participated in the research completely voluntarily.

Study Group

	Name[7]	Age	Performed/Produced Instruments	Self-Identified Profession	Musical Experience (Year)
1	Mutlu Subaşı	46	Efece instrument and its family	Engineer, Turcologist, Amateur Musician	12
2	Cihan Ereke	38	Guitar, *bağlama*, cümbüş, stringed instruments	Luthier	18
3	Ömür Kurt	36	Santur, *bağlama* family, wind instruments	Luthier	5
4	Engin Topuzkanamış	45	Kopuz, Oğur Sazı, Gitar, Cümbüş	Academician, Luthier	24
5	Salih Korkut Peker	45	Cümbüş, guitar, oud	Musician	26
6	Sinan Ayyıldız	44	*Bağlama* family, double-necked instruments	Musician ve Academician	23
7	Hasan Genç	54	*Bağlama* family	Musician	40
8	Erkan Oğur	70	*Bağlama* family, guitar family	Musician	49

[6] 64 hours is not a lower or upper limit or a benchmark. It simply indicates the time it took to produce the raw data set.
[7] Participants gave written and verbal permission for their names to be written openly in the text of the article.

9	Erdal Erzincan	53	*Bağlama* family	Musician	35
10	Yılmaz Öztutan	28	*Bağlama* family, kopuz	Musician	10

Table 1. Participants' Demographic Information.

The average age of the study group participants was 45.9 years, and the average of their professional experience was 23.3 years. The performers in the study group, in which the data on Efece, an instrument that carries certain characteristics of guitar and *bağlama* instruments, were generally accepted names with virtuosity-based mastery over *bağlama*, *bağlama* family, guitar, and other stringed instruments. The average age of the luthiers is 39.67 years, the average duration of their musical experience is 12.67 years, and they have worked on the Efece instrument at different times. It was aimed to balance the number of luthiers and performers in the study group. The average age of the performers is 49 years, and the average duration of musical experience is 24.2 years. The participating performers are pioneers in terms of the instruments they play, and they work and perform in Turkey and in different countries around the world.

Data Collection Process

Following the ethics committee's permission for the realisation of the research, interviews were planned between 03.06.2024 and 23.07.2024, and a pool of semi-structured questions was created. Separate questions were created for the designer, luthiers, and performers, and interviews were started. Since the designer was also the author of the study, the interview with him was conducted by the other author. Face-to-face interviews with the participants, with at least one researcher, were conducted in Eskişehir, Muğla, İstanbul, and Ankara; virtual interviews were conducted via Zoom. The total duration of the interviews was 13 hours, 52 minutes, 52 seconds. Before and after the interviews with the performers, they were given time to experience the instrument. The interview recordings were transcribed by the researchers and transferred to the Office Word programme and the MAXQDA qualitative analysis package for content analysis.

Data Analysis

In the analysis of the data, a chronological approach (Denzin, 1989), one of the narrative analysis techniques, was preferred. The opinions of the performers after they experienced the instrument were subjected to content analysis. In content analysis, words, word groups, and sentences in the texts are coded, and certain categories and themes are accessed, and in this way, the text can be examined in depth in terms of content and context (Krippendorff, 2004; Neuendorf, 2016). The

reason for choosing this technique is to identify common meanings and tendencies in the texts obtained from the experiences in the modification process. In the analysis process, the researchers carried out collaborative coding through the MAXQDA qualitative analysis package programme and reached certain categories and themes. The figures and visuals related to the categories and themes, the reliability of which was checked by experts, were presented to the reader.

Validity and Reliability

The study group has very reliable characteristics in terms of professional experience. The interview questions were approved by academics specialised in music and performance. After the audio and video recordings were transcribed, they were checked by the researchers and the interviewees; necessary corrections were made to increase the confirmability. Collaborative coding was preferred in the data analysis phase. In addition, we reinforced the themes with direct participant references, quotations, and examples. The names of the participants were placed in the text in line with the permission obtained from them, and all of them gave their consent to the final version of the research text. We increased transferability by showing the demographic information of the participants forming the study group, determined through purposive sampling.

Researchers Role

One of the researchers is a designer in the creation process of the instrument, and the other is an academic researcher conducting qualitative research. The designer is the person who has the most knowledge about the instrument, and the academician researcher has assumed a role, especially in conducting the research in a scientific, systematic manner.

Ethics

The research was carried out with the permission of Afyon Kocatepe University Social and Human Sciences Scientific Research and Publication Ethics Board, with protocol number 2024/136 taken at the meeting number 06 dated 17.04.2024 and protocol number 024/317 taken at the meeting number 18 dated 18.09.2024. In this study, all the rules specified to be followed within the scope of the Higher Education Law and the Scientific Research and Publication Ethics Directive were complied with. Necessary measures have been taken for the actions specified under the title of Actions Contrary to Scientific Research and Publication Ethics.

RESULTS

How can the experiences of the designer of the Efece instrument regarding the design process before the production of the instrument be described?

The designer is an engineer with an amateur interest in music and a keen curiosity about musical performance and organology. For Subaşı, the idea of designing the Efece instrument came at a time when his interest in literature and music intensified:

''The most effective ways of expressing myself were literature and music. Both are at the centre of my existence and my effort to overcome death. That is why I began a new period in my life, deciding to study literarature and to begin my amateur musical studies'' (Subaşı).

He generally concentrates on playing folk songs called *türkü (A musical form called the Turkish folk song)* and begins to experiment with the creation of works in this form. In the last period, he wrote two *türkü* and these form the driving force that will lead Subaşı to design a new instrument. At the same time, some of his sound-based musical needs start to become apparent in this process:

> ''All the forms I felt, sang, tried to play, and wrote were based on the türkü. But the sound I liked was more of a guitar sound. Especially classical guitar. Polyphony, fingerstyle, and fretless guitar sounds were very interesting to me at that time. But I also knew that Turkish music comas could not be played on a fretted classical guitar. It was around this time that I first had the idea that there could be a guitar that could combine playing like bağlama and guitar techniques, and I imagined such an instrument (Subaşı).

Within the framework of his aesthetic quest, Subaşı sets four basic target points for the instrument he imagines: Having a guitar sound, being able to present the playing techniques of *bağlama*, being fretless to perform microtonal intervals, and being able to be played by utilising all the fingers of both hands with plectrumless/clawless performance techniques. On this basis, he observes that the bass character of the thick-sized strings is utilised more in the *bağlama* performances he observes within the framework of his musical preferences. He observes that in bağlama performances, especially in the 3rd string group, the upward direction pick (bottom) strokes are preferred less than the strokes in the opposite direction. Based on this observation, he designed the top string row of the instrument as a single string with bass character. Subaşı prefers the acoustic guitar because it is easier to use the thumb on this string row:

''*One day, with a very sudden decision, I ordered an acoustic guitar and a set of 12-string acoustic guitar strings from the internet and thus the process began''* (Subaşı).

How can the production process of the Efece instrument be described through the experiences of the designer and the luthier?

The first stage of the production of the instrument is the designer's contact with the luthiers. The perceptions of the luthiers about the production of the instrument in the initial process are generally positive. Their prejudices about the idea are quite close to each other. For example, Ereke's initial perception was neutral. He approaches the design idea pragmatistically in the context of musicians' needs:

''I didn't have any positive or negative feelings about it. I mean, if this is what the musician needs, it can be done'' (Ereke).

Kurt states that his relations with people who are experimenting with new instruments are guided by his first impressions and beliefs towards the instrument:

> ''Actually, quite a few people try to find something new. Eighty to ninety per cent of luthiers think with the prejudice that the idea will not work or it is ordinary. When a person who has an excitement (of a new instrument) comes to us, we try not to hurt his feelings, and if we believe in this instrument, if we have developed some faith, we are interested. But if we don't have that belief in the person and the project of the instrument, it's a bit (different)'' (Kurt).

Luthiers have curiosity and concerns about the process and the instrument, especially at the beginning of the instrument's construction:

I spent more time here with dreams. For example, when I go to bed at night, will I be able to do it? I mean, will I be able to achieve that timbre of that instrument that is asked of me?' In other words, you were forcing yourself so that image or that consciousness would come and I would be able to complete it'' (Kurt).

Before the modification of the instrument subject to this article is started, the experiments are carried out on an acoustic guitar until the strings and layout are decided. In the first stage of the modification, the frets of the guitar are removed by Lutiye Ercan BİLİR, and a 7th tuner and string are added to the guitar. At this point, it was very important for the luthiers that the instrument on which the modifications are to be made is known to them and on which they have experience. Topuzkanamış states that it is advantageous to proceed based on modification of an existing instrument, emphasising the comfort and speed this situation provides to the luthier:

> ''You are doing it for the first time. Therefore, you can miscalculate the movement of the neck, the string height, and the spacing of the strings. Because you understand as you try it. But of course, it was an advantage to work on a guitar. Because I have a relationship with the guitar both as a performer and to a certain extent as a producer. I've worked a lot with the fretless guitar before'' (Topuzkanamış).

In the first stage of the modification, as mentioned above, a 7-string structure was preferred, and the strings were arranged in 4 string courses on the instrument. The top string row is arranged as a single string, and the others as two strings. The first performance trial of this arrangement was carried out by the designer:

The experiment failed because almost no sound came out of the instrument. My friend Serdar Can suggested that I replace the strings of the instrument with electric guitar strings and tune the standard guitar tuning from top to bottom, starting from the 5th string (such as A, D, G, B). In this way, I was able to get more volume from the instrument'' (Subaşı).

Subaşı performed the instrument in this form for about 2 years. On the one hand, he continued to experiment with different gauge strings during this modification phase of the instrument to obtain the *bağlama* sound he wanted the instrument to have. He thinks that the tuning systems and the number of strings in the lowest string group of the instrument constitute the source of the characteristics of the *bağlama* sound he is looking for. For this purpose, he decides that the number of strings in the lowest string group of the instrument should be 3. Simultaneously, he wanted to utilise the tuning systems of the *bağlama*. At this point, he abandoned the guitar tuning in the previous modification phase. He decides that the instrument should accommodate the sound ranges of the open strings used in the *bağlama* tuning. Then, to triple the lowest string group, an unwound string is added to the instrument, and the number of strings is increased to 8:

> ''In the previous prototype, group strings were formed by drilling holes next to the existing holes on the bridge. For example, a new hole was drilled between the two existing holes to triple the first-string course. However, the 5th hole was not used at all. This resulted in equal spacing between the grouped strings, but an incompatible interval (physical distance between the strings) between the top string and the other strings below it. With the addition of the 8th tuner, there was no space left on the headstock to install a new tuner. So, I solved the problem by removing the plain string from the 3rd group and adding a wound string to the 5th group'' (Subaşı).

Thus, in the new modification stage, the 3rd and 4th string group was determined, and with the addition of the 8th string, the instrument reached a richer string potential than at the beginning. The addition of the 4th string group enabled the Efece to include the *bozuk* tuning (a common tuning of the baglama). This new arrangement means a new problem for the luthiers:

> ''Now the instrument we are going to make has more strings, and we need to drill extra holes in the bridge so that these extra strings can be tied. Doing so, you also weaken the bridge to a certain extent. Therefore, my concern was that when the strings are tuned, the tension might tear the bridge off from the top/or it can lift the top. This new saddle might break the bridge slot where it sits. And it happened as I predicted, I repaired and strengthened the bridge by gluing a thicker piece of wood, and I chose to use a thicker ebony fretboard for a stronger neck'' (Topuzkanamış).

Figure 1. Efece Instrument.

At the next stage, on the recommendation of Cihan Ereke, nylon strings are used for 1, 2, 4, and 5. course. Then luthier Özgür Turan suggests that the designer try using oud strings, and this suggestion is implemented. At this last stage, the designer finalises his search for the tuning system of the instrument and the strings to be used. He applies the original tuning system to the instrument.

Figure 2. The relationship between the tuning system of the Efece instrument (left), the open string notes of the bağlama tuning (centre), and the open string notes of the bozuk tuning (right).

When the instrument is performed, the new wound strings create some unwanted frequencies. Especially the sound of the 3rd (D) string resonates with the body and becomes longer than desired. This problem was solved by Topuzkanamış by lightly sanding the wound strings with a high-grit sandpaper. Finally, with the joint suggestion of Topuzkanamış, Peker, and Cenk Erdoğan, the designer decides to use wound strings on the 5th string, and with this revision, the instrument takes its final form. After this final modification, Subaşı became a student of Salih Korkut Peker, and together they began to explore the limits of the instrument. Subaşı named the instrument ‘Efece’ after his children, who were named ‘Efe’ and ‘Ece’.

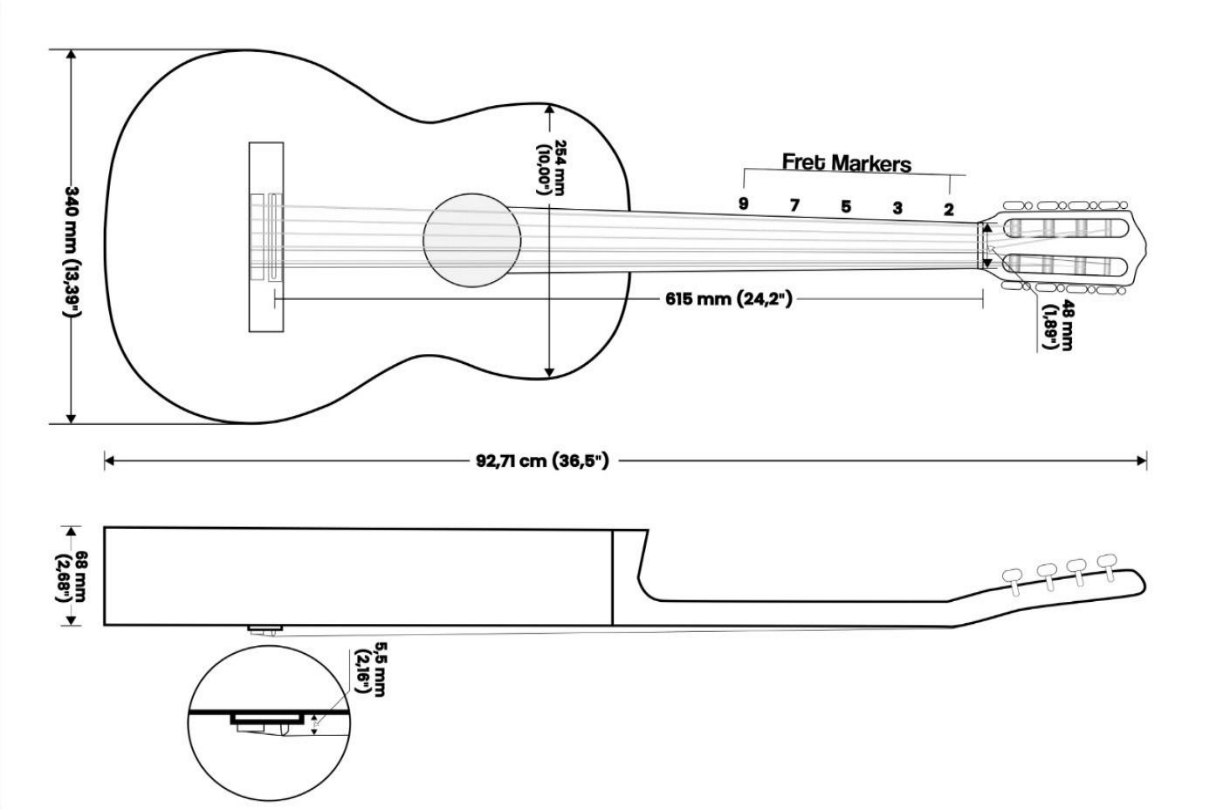

Figure 3. Form measures for the Efece instrument.

The Efece instrument has a Spanish classical body style. The top is solid cedar, the body and sides are solid mahogany, the neck is African mahogany, the bridge is rosewood, the nut and the saddle are bone, and the varnish is polyurethane.

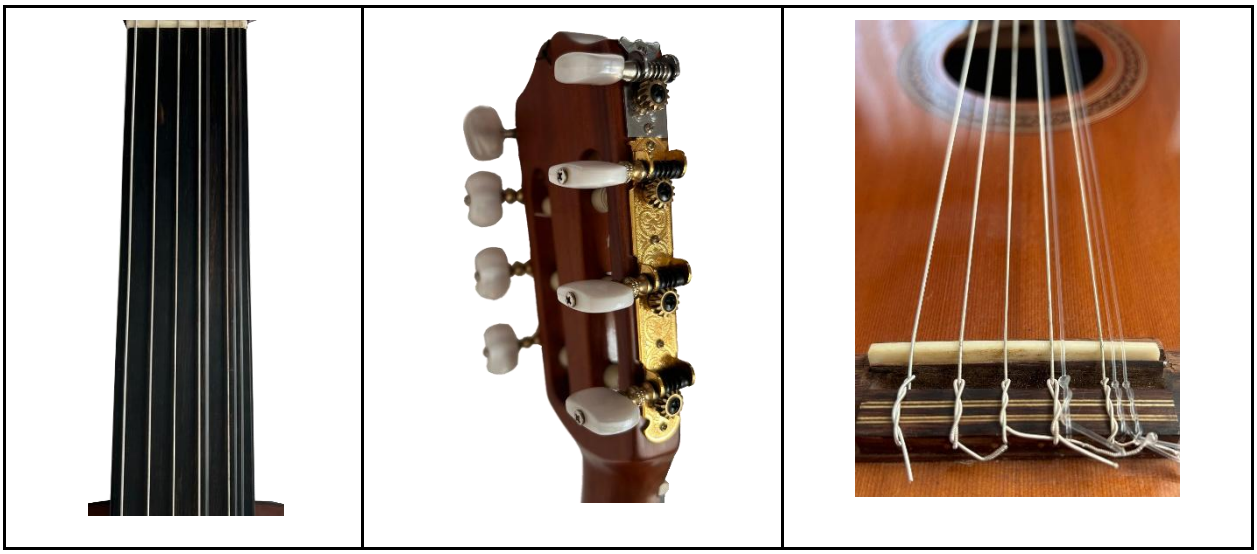

Figure 4. Efece fingerboard (left), headstock (centre), and bridge (right).

The instrument has five courses and eight strings, and some of the rows consist of single, some of double, and triple string groups:

String Group	Row of Strings	String Thickness (inch/mm)	Frequency (A= 440 Hz)	Note Equivalent	Range According to Upper String/ String Group
5.	8. string (top)	0,042/1.067	98 hz	G2	
4.	7. string	0,0030-34/ 0,76/86	116,54 hz	Bb2	min3
3.	6. string	0,0023-25 inch/0.58/63	147 hz	D3	Maj3
2.	5. string (upper string of double, wound)	0.042/1.067	87.307 hz	F2	min3
2.	4. string (lower string of double, nylon)	0.040/1.02	174,61 hz	F3	1 Overtake Higher
1.	3. string (upper string of triple, wounded)	0.030/0.76	130,8 hz	C3	T5
1.	2. string (middle string of triple, nylon)	0.022/0.56	261,6 hz	C4	1 Octave Higher
1.	1. string (lower string of triple, nylon)	0.022/0.56	261,6 hz	C4	Unison

Table 2. Preferred string sizes, dimensions, frequencies, and intervals in Efece.

On the bridge, eight holes were drilled with a 11 mm gap between the string groups and a 3 mm gap between the strings within grouped strings. On the headstock, the standard tuning peg holes were extended, and two acoustic guitar tuning pegs were mounted in the new holes, parallel to the standard tuning pegs. To accommodate the extra tension caused by the added strings, a thicker ebony fingerboard than usual has been used. Since the fingerboard has been narrowed, the upper bridge system has been modified accordingly. No modifications have been made to the bracing.

What clues do the experiences of musicians performing the Efece instrument provide regarding the instrument's performance potential?

The codes (n: 86) obtained after the analysis of the experiences of the performers of the Efece instrument were placed under three themes: 'first impression towards the instrument' (n: 13),

'positive experiences towards the performance potential of the instrument' (n: 64) and ''negative experiences in the performance of the instrument' (n: 9):

Findings related to the theme of the first impression of the instrument

In the theme of 'first impression towards the instrument' (n: 12), there are codes related to the first observations, experiences, and judgements of the performers about the Efece instrument. In this theme, there are 4 categories as 'adaptation difficulty' (n: 6), 'strings of the instrument' (n: 3), 'unusual appearance' (n: 2), and 'intermediary role in reaching music' (n: 1):

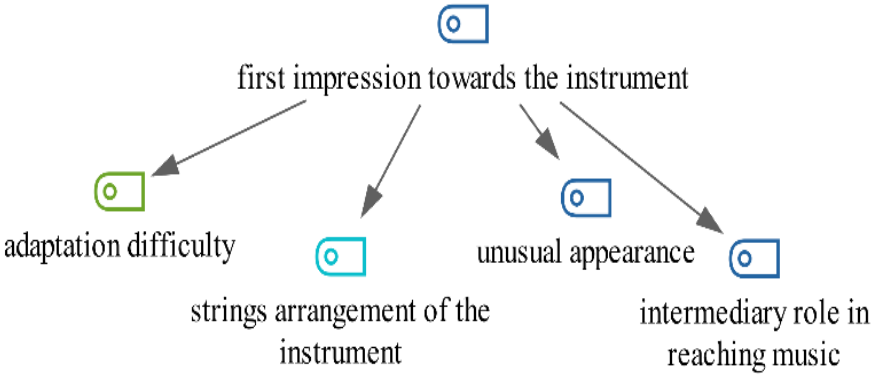

Figure 5. Categories in the theme of first impression towards the instrument.

The performers had various difficulties in adapting to the instrument in the first minutes they experienced Efece. The codes related to the difficulties were included in the category of 'adaptation difficulty':

''One has difficulty in adaptation at the beginning. Both in terms of tuning system and the multiplicity of strings'' (Oğur).

''Firstly, the number of strings, the structure of the body, its position on the lap and how to play it with the pick, of course there is a process of unfamiliarisation'' (Genç).

Erzincan's first impression is mostly related to the 'string structure' of the instrument and he states that a long time is needed to discover the potential of the instrument:

''Adding a string to an instrument naturally transforms it into another instrument, and it is not possible to adapt to it and play it in a way that will do justice to the instrument you have in your hand in an instant. This is the difficulty (Erzincan).

After Ayyıldız's first performance experience, he emphasises various potentials related to his 'stringing':

''It can be played in 3 different ways, pitches of G, Bb, and D, or any transposed pitch can be used as the 3rd playing option. These are my impressions about the tuning and the way the instrument is strung'' (Ayyıldız).

The fact that the instrument is in the form of a guitar seems to be a familiar detail for most of the performers. However, other differences, such as the number and types of strings and grouped strings, are quite surprising for the first impression:

''I wasn't expecting such an instrument. I mean, what can happen, you may have changed the bridges, you may have tried a few strings. But it surprised me to be honest'' (Genç).

After Oğur's experience with the instrument, his philosophical approach emphasises that instruments have a role in achieving music that is shaped according to the relationship the performer establishes with them. The Efece, like other instruments, has a similar potential:

''Every instrument is a tool for me. It's just a tool. The music is there, you are here. There are many musical instruments between us and music. This is one of them. As I said, it looked familiar to me. If you work on it a little bit, music can come out. That's a nice feeling. One can get closer to music thanks to this instrument'' (Oğur).

Findings related to the theme of positive experiences towards the performance potential of the instrument

The theme of 'Positive experiences towards the performance potential of the instrument' (n: 64), which includes the positive opinions of the performers after experiencing the instrument, consists of the categories of 'originality' and 'technical potential'. The theme, consisting of the categories of 'harbouring the characteristics of different instruments' (n: 28), 'technical potential' (n: 27), and 'originality' (n: 9), included the positive opinions of the performers towards the instrument after their experiences.

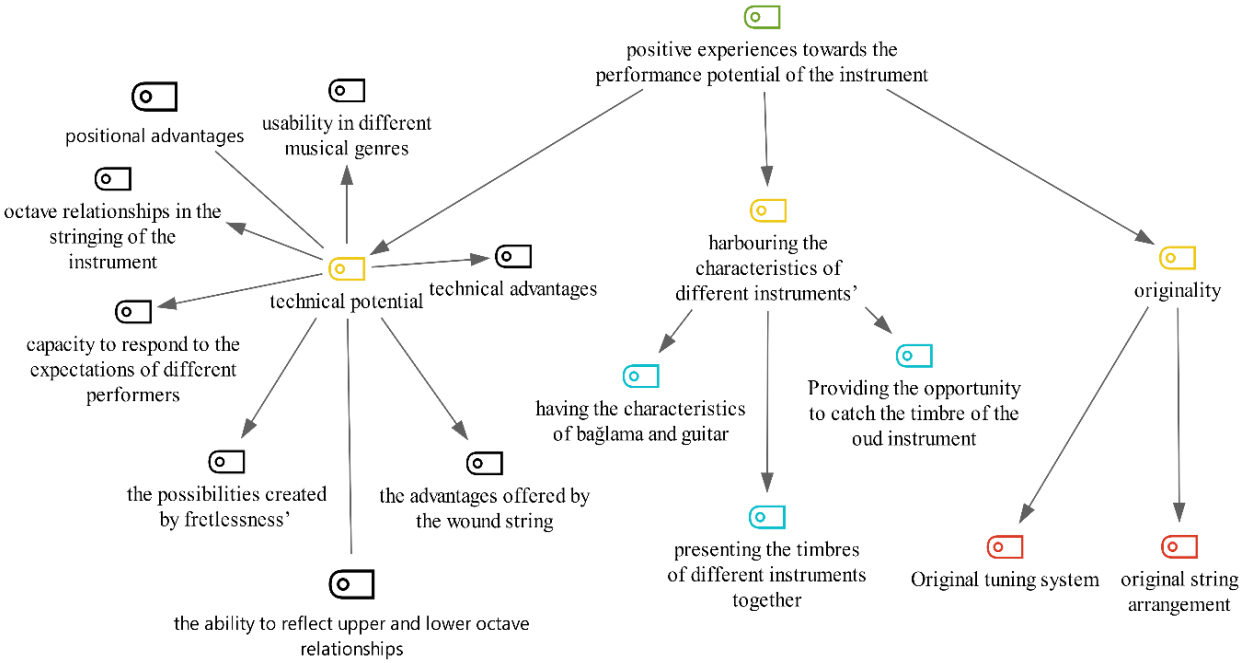

Figure 6. Categories and codes of the theme 'positive experiences towards the performance potential of the instrument'

'Original tuning system' and 'original string arrangement' codes are included in the originality category. In the performer's opinions, where the codes of 'original tuning system' (n: 6) are included, Efece's characteristic of containing different tuning systems and especially the positive aspects of the *bağlama* instrument's harbouring tuning systems are mentioned:

''Something that can be quickly adapted as a tuning design that incorporates existing traditional bağlama tuning systems into performance'' (Erzincan).

> *The most important one is that the playing area is wide. Because both our tambura bağlama, which we call tambura bağlama and which we tune in the bozuk tuning system, and our short-neck bağlama cannot go beyond a certain area. This causes the interpretations to be generally similar to each other. I had the feeling that we could go beyond this in Efece''* (Genç).

Ayyıldız has indicated the place of the tuning system of the Efece instrument among the classifications and exemplified the chord potential provided by the tuning:

> ''Instruments tuned like Efece are called Re-entrant tuning. In other words, there is octave playing on the same string group, but there are also re-entrantly tuned instruments. For example, while it is normally expected to go high to low, there may be a break in between. Now, this place (5th, 4th, and 3rd string group) is tuned to G, B flat, and D. Therefore, we can extract other chords and minor chords with barred performances. It is an advantage to have a minor chord here'' (Ayyıldız).

Performer opinions coded with the code 'original string arrangement' (n: 3) point to the relation of the characteristics of the string arrangement and grouping of the instrument to authenticity and certain reservations on this issue:

> ‘‘With multiple strings, intonation problems are always different because of the pressure. When there is a big difference between the diameters of the strings, even if it is possible to fuse the tuning, the empty string, the pressed areas, that is, from the moment the finger is pressed, no touch the same point on both strings. Having 3 strings in a row or 2 strings in a row requires precise pressure and careful touch. These problems that can be solved also’’ (Oğur).

In the category of technical potential (n: 27), ‘technical advantages’ (n: 11), ‘capacity to respond to the expectations of different performers’ (n: 8), ‘usability in different musical genres’ (n: 2), ‘octave relationships in the stringing of the instrument’ (n: 1), ‘the advantages offered by the wound string’ (n: 1), ‘the possibilities created by fretlessness’ (n: 2), ‘the ability to reflect upper and lower octave relationships’ (n: 1) and ‘positional advantages’ (n: 1). According to the musicians, the Efece instrument is quite remarkable with its ‘technical advantages’ (n: 11), most of the techniques that can be applied in *bağlama* and guitar instruments can also be applied in this instrument:

‘‘Now, due to its structural features, classical and flamenco guitar right and left-hand techniquies and fingerstyle (techniques) used in blues, are more suitable for Efece’’ (Peker).

Strumming, tapping, percussive, and harmonic techniques can be used. Including tapping, I tried tapping on a fretless guitar. It wasn’t that good, so it’s better on Efece. Because it has grouped strings’’ (Ayyıldız).

The code that the performers emphasised more after this code was ‘‘the capacity to respond to the expectations of different performers’ (n: 8). When the answers are analysed, it is emphasised that the ability of the instrument to perform in every music genre will be shaped according to the expectations and potential of the performer:

> ‘‘When Hasan Genç played it, his hand immediately went to the bağlama form on the lower two strings, and he tried to play it with a bağlama, bozuk tuning system style on the lower two string groups. It was his reflex because of his instrument. Sinan Ayyıldız, on the other hand, wanted to give it a try first, since the şelpe (tapping) is his main way of expressing himself. Cenk Erdoğan, for example, preferred to work directly on guitar chords (Peker).

‘‘I wonder what this instrument would sound like in the hands of a master who plays flamenco very well and who also knows Turkish folk music, the regions well, who has listened to türkü, and who is also familiar with Turkish music maqams’’ (Genç).

Another code in the technical potential category is ‘the possibilities created by fretlessness’ (n: 2). In the sentences coded with this code, the positive aspects of the fretless character of the Efece and the performance opportunities it offers are mentioned:

‘‘Having no frets means that you have infinite frets, infinite possibilities’’ (Erzincan).

Other codes in the related category are 'usability in different musical genres' (n: 2), 'octave relations in the instrument's stringing' (n: 1), 'advantages offered by the wound string' (n: 1), 'ability to reflect upper and lower octave relations' (n: 1) and 'positional advantages' (n: 1). In these codes, there are opinions about different technical potentials of Efece:

> ''It can be used in a very different approach to traditional and classical Turkish music, I think it can be used in musical genres that are not overly disciplined, like flamenco and blues, by incorporating traditional timbres. It can blend very well with maqam music by using blues and flamenco bases. It can express its potential to a greater extent in the musical genres created by the fusion of cultures'' (Peker).

The third category of the theme 'Positive experiences regarding the performance potential of the instrument' is the category 'harbouring the characteristics of different instruments' (n: 27). In the codes in this category, there are opinions about the potential of the Efece instrument to reflect some distinctive features and timbral characteristics of *bağlama*, guitar and oud instruments. Some performer opinions coded with the code of having the characteristics of *bağlama* and guitar instruments (n: 13) are as follows:

''It has an expression and attitude reminiscent of bağlama. It is like a guitar, but it is not a guitar. It is a unique design'' (Erzincan).

''It is an instrument that has a feeling of bağlama in guitar form'' (Oğur).

''The fretless aspect already gives the feeling of playing like a fretless. Of course, it is very similar to fretless guitar in that sense'' (Ayyıldız).

''There is something similar to bağlama. But it has guitar timbres. But it sounds different from both'' (Öztutan).

The common feature of the codes (n: 11) related to Efece's offering the opportunity to capture the timbres of different instruments together is that they focus on the fact that it offers a brand-new discovery and 'playground' to the performers:

''It is an instrument where you can hear both the timbre of bağlama, oud, cümbüş, guitar all together, it is an instrument where you can hear the smell of all of them together'' (Erzincan).

The performers also pointed out the closeness of the instrument to the oud in the statements coded as providing the opportunity to catch the timbre of the oud (n: 3):

''It is related to the oud'' (Ayyıldız).

''At the upper strings. There is a chance to catch an oud breeze'' (Peker).

In the theme of ‘‘negative experiences in the performance of the instrument’ (n: 9), three categories were formed as ‘‘experiences related to the tuning of the instrument’’ (n: 4), ‘‘difficulty in pressing the group strings’’ (n: 3), and ‘‘possible negativities’’ (n: 2) and the codes were placed in these categories.

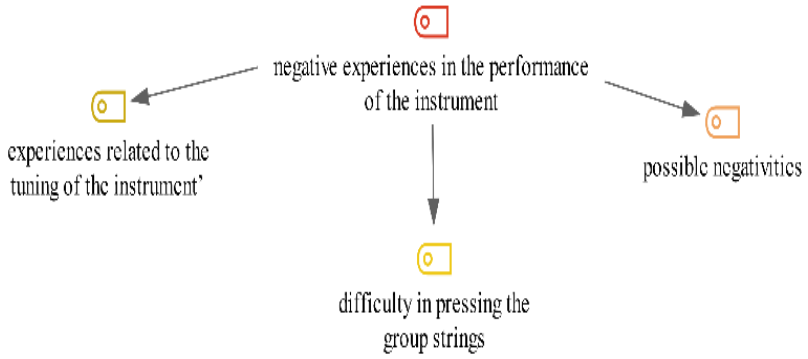

Figure 7. Scheme of categories of the theme of negative experiences in the performance of the instrument.

In these categories, the performers mentioned the problems and difficulties they encountered in their performance experiences on the instrument. The first of these is related to pressure problems:

‘‘On a fretless instrument, it is always difficult to produce a sound with proper intonation from two strings at the same time. This is added to the fact that there are thin and thick strings at the same time, where you are pressing’’ (Peker).

‘‘Having 3 or 2 strings in a row requires precise tuning and careful touch and pressure’’ (Oğur).

‘‘To the grouped strings, i.e., 3, 2 strings like the bağlama below, to catch a full touch there, to catch a clean sound, that is a difficulty, because the strings are not thin strings’’ (Öztutan).

Another negative experience is related to the tuning system of the instrument. The performers had different experiences and difficulties regarding the tuning system:

‘‘There is an obligation in Efece. For example, that is the negative thing I can say about Efece’s current tuning. I think Efece’s interpretation area would be a little wider if that minor obligation were not there’’ (Peker).

Other opinions are mostly judgments about the negativities that subsequent performers may experience:

‘‘Since the lower two strings are arranged in an octave-string relationship, when we try to press these strings in the way we call half-barre on the guitar we use in the bağlama, the fretlessness is sainted and the sound fades out a little faster than it should. For example, this could be a negative situation for someone with a background in bağlama (Peker).

DISCUSSION AND CONCLUSION

The research aims to understand the dynamics of the process from design to production and performance of an instrument through the experiences of designers, luthiers, and performers using the example of a modified instrument. To this end, the characteristics of the processes of change and development that the Efece instrument, which is a modification of an acoustic guitar, can undergo are illustrated through personal experiences of the designer, luthier, and performer who experienced the processes of design, production, and first performance. The creation and idea of the designer, the recognition and acceptance of the idea by the luthier, the modifications made to the instrument by the luthier, the performers' first impressions of the instrument, and their first performance experiences are listed in a chronological description. The research also provides a phenomenological perspective on the participants' experiences with the instrument.

An important feature of this study is that it deals with a process that extends from the design idea to the final product, as well as the first performance experiences of the instrument. In the design of the instrument, it is seen that the musical aesthetic needs of the designer shape the process. The designer's curiosity for a modification that could convey the sounds of classical guitar and fretless guitar instruments that appeal to his musical tastes, and on the other hand, the characteristics of the music of the *bağlama* instrument, whose 'traditional codes' he would reflect, led the designer to reach a 'new instrument' with a new 'sound'. As a result, when the titles such as number of strings, string size, string arrangement, and tuning are considered collectively, it is seen that an instrument that can respond to different playing styles, music, and needs has been created.

Subaşı says that his design aims to bring together the music of the Western and Turkish musical genres based on a new instrument. He did not have to start from scratch. In the process of designing and building the instrument, the construction and design information of existing fretless, classical guitar, and *bağlama* instruments were used in a mixed way. This is very similar to the processes of luthiers and performers who design, build or modify many new instruments. For example, Bongers (2007) reports that Adolphe Sax, in the process of designing an instrument that was closer to the stringed instruments of the past but free from the disadvantages of the stringed instruments of the time, based his design on the knowledge of existing instruments. As a result, the world of music was presented with instruments made by people based on their own musical knowledge and observations of different instruments.

Reviewing the qualities of an instrument's traditional form before starting its modification can be a good start (Andersen and Gibson, 2017). In this context, Subaşı decided to start from the traditional guitar form. He goes through stages such as changing the string size and quality and string arrangement respectively. While the material arrangement of the instrument or some of its important parts may remain basically constant over time, the instrument can become a completely new tool used for different functions when combined with other elements (Tresch and Dolan, 2013). In Efece, the guitar form was left constant, but a new timbre was captured through attempts such as increasing the number of strings and changing the string qualities, similar to Andersen and Gibson's (2017) experiments.

The product that emerged at the end of the process was different from what the luthiers had expected. Besides the fact that the new instrument improved their professional skills and tastes, the technical potential of the instrument seems to have surprised them. In the research, the luthiers' experiences of the performance potential created by the new character of the instrument focussed more on its fretless advantages, original tuning system and sound, and the fact that it has the characteristics of different instruments. As with any traditional instrument, the potential of a new instrument to produce quality musical sound can only be revealed when played (Andersen and Gibson, 2017). For this reason, the instrument was inspected by a study group formed within the scope of the research, almost all of whom have national and international competence in the fields of interpretation of many instruments. When the data were analysed, it was seen that the performer experiences were directed towards the potential to meet the expectations of different performers, its usability in different musical genres and its potential based on the original string arrangement features, in addition to the titles mentioned by the luthiers.

After years of playing a particular instrument, performers adapt to the finest details and characteristics of that instrument. Therefore, the transition to any new instrument requires a new process of adaptation and organisation (Bijsterveld and Schulp, 2004). It was observed that the first impressions of the performers who experienced the Efece instrument were all positive, but they initially had difficulties in perceiving and adapting to the 'tuning system' of the instrument. However, in addition to the familiar shape of the instrument, the differences in strings, string groups and quality, timbre and texture aroused the interest of the performers. A new instrument should be able to surprise the performer and allow a continuous renewal of musical possibilities through practice and exploration (Andersen & Gibson, 2017).

In addition, the original tuning of the *bağlama*, which incorporates and combines both the bozuk and *bağlama* tuning systems, had a similar effect on performers. These features of the instrument, which many performers found interesting, were characterised by the performers as 'a search for difference based on tradition'.

According to Magnusson, the meaning of an instrument in a cultural context always depends on the musicians themselves. Picking up an instrument for the first time is an encounter of a special kind, full of curiosity and expectations for the future (2021). The instrument is a cultural object full of theory and practice. In this research process, the musicians who encountered the Efece instrument for the first time, who until that day had performed music in very different styles from each other, searched for alternative ways of performing and found them in a short time, similar to the performers in Morreale et al.'s (2018) study, because they could not reach the traditional ways of playing their own instruments during their experience with the instrument. Thus, by playing the instrument with their own unique performance styles, they presented different creations that were unaware of each other. This situation pointed to the instrument's ability to respond to different musical styles.

One of the performer's tactile experiences of the instrument is the difficulty of getting the right sound the first time on fretless instruments. Musicians rely heavily on their sense of touch when playing acoustic instruments, which helps them to control and express the sounds produced (Bongers, 2007). Expanding or contracting the physical dimensions of an instrument causes changes in musical motion (Mice & McPherson, 2021). In Efece, the fact that the number of strings in the lowest group is three, unlike the number of strings in other groups, and that it differs from the usual number and arrangement of guitar strings, has expanded the tactile space required for musicians to perform. Add to this the thicker character of one of the strings in this group and the actions associated with fretting, and the result is a virtuosity level to be overcome by the performer. According to the experience of performers, the Efece instrument can convey the timbres and textures of instruments such as the oud, cümbüş, fretless guitar and *bağlama* in a hybrid structure; it seems to be a kind of combination of guitar and *bağlama* instruments. In addition to the large number of works and compositions arranged for guitar that are influenced by the common performance techniques of the *bağlama*, there are also studies (Çoğulu, 2010) that point to the blending of the technical potentials of these two instruments and the transformation of the playing techniques of each into a joint performance. These studies focus more on the application of

bağlama techniques to the guitar. Studies on the adaptation of the guitar to the *bağlama* instrument are not at a sufficient level (Gerekten, 2020). By analysing the opinions of the designer, luthiers and the performers who constitute the data of this research, it is predicted that the original form of Efece and its potential in the field of performance can offer a new perspective in the context of performance interaction of *bağlama*-guitar instruments.

In Andersen and Gibson's (2017) research, in which they modify a cello, they discover that the cello is capable of new responses. This situation encourages researchers to approach the instrument in a different way, extending the instrument's existing gestures and techniques and allowing new possibilities to emerge in the instrument. The opinions of the musicians in our study group point in a similar direction. The musicians' opinions emphasise that within the possibilities and limitations of the instrument, the Efece allows the performance of plectrumless techniques commonly used on guitar and *bağlama* instruments, and that it can also respond to each performer's expectations of the instrument and the technical orientation of the performer. In other words, the Efece instrument, which is very different from the original instrument, allows for new playing techniques and styles, and can be a tool for interpretive styles that differ from performer to performer[8].

Limitations And Recommendations

In this study, a limited number of performers were reached and in-depth data were tried to be obtained. It may be possible for future researchers to reach a large number of performers and conduct studies with quantitative characteristics to compare the results of this research. The fact that the number of model instruments used in the study was less than the number of performers and that the performers resided in different cities in Türkiye limited the time for the performers to experience the instrument, and the interviews could not be planned in a length that would allow them to experience the instrument for a longer period of time in general online and face-to-face interviews. It is recommended that future researchers access groups that will experience the instrument more.

Today, the instrument awaits performers who can push its limits and express a new language across diverse musical styles. In this regard, the Efece is not only an instrument that can be recommended

[8] For different performance examples on the instrument: https://www.youtube.com/watch?v=7FAfPa9ZlGI

for performers seeking the 'new' but also one that embodies the characteristics of many instruments, potentially appealing to a wide range of performers.

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GENİŞLETİLMİŞ ÖZET

Bu araştırma, müzikal ihtiyaçlar doğrultusunda bir çalgının hayal gücüyle yeniden tasarlanıp üretilmesinden, icra edilmesine kadar geçen süreci tasarımcı, lutiye ve icracıların deneyimleri üzerinden betimlemeyi amaçlamaktadır. Çalışmada incelenen örnek çalgı, Mutlu Subaşı tarafından

tasarlanan ve "Efece" adı verilen modifiye edilmiş bir gitardır. Bu özel enstrümanın tasarım, üretim ve icra süreci; tasarımcının estetik ve teknik arayışları, luthierlerin yapım aşamasında karşılaştıkları zorluklar ve çözümleri ile icracıların performans deneyimleri üzerinden değerlendirilmiştir.

Araştırma, nitel ve fenomenolojik bir yaklaşımla ele alınmış, veriler ise tasarımcı, lutiyeler ve icracılardan oluşan 10 kişilik bir grupla yapılan görüşmelerle toplanmıştır. Bu görüşmelerden elde edilen veriler içerik analiziyle değerlendirilmiş, MAXQDA yazılımı kullanılarak tematik analizler gerçekleştirilmiştir.

Araştırmanın başlangıç noktası, tasarımcının geleneksel Türk müziğine olan ilgisiyle, klasik gitarın çok sesli yapısını birleştirme arzusudur. Subaşı, Türk halk müziği icrasını gitar formuna uyarlamak için fretless (perdesiz) bir yapıya sahip, bağlama ve gitar tekniklerini bünyesinde barındıran yeni bir enstrüman hayal etmiştir. İlk aşamada bir akustik gitar üzerinde yapılan modifikasyonlar, zamanla profesyonel lutiyelerin katkılarıyla daha ileri seviyeye taşınmıştır. Deneme yanılma yöntemleriyle tel düzeni, akort sistemi ve yapı malzemeleri geliştirilmiştir. Subaşı, gitarın perdeliliğinin Türk müziğindeki koma aralıklarını çalmada yetersiz kalması sebebiyle, perdesiz bir yapıyı tercih etmiştir.

Yapım aşamasında, luthierler projeye ilk etapta tarafsız veya şüpheci yaklaşmış; ancak süreç ilerledikçe hem teknik hem de sanatsal anlamda enstrümana güven duymaya başlamışlardır. Yapılan modifikasyonlar arasında en belirgin olanlar, tel sayısının sekize çıkarılması, bazı tel gruplarının çift veya üçlü tellerden oluşturulması ve özel akort sistemlerinin uygulanmasıdır. Bu değişiklikler, çalgının hem bağlama hem de gitarın karakteristik özelliklerini taşımasını sağlamıştır. İcra sürecinde ise, enstrümanı deneyimleyen profesyonel müzisyenler ilk başta alışma zorluğu yaşamışlardır. Bu zorluklar özellikle tel dizilimi ve akort sistemine yönelik olmuştur. Ancak zamanla müzisyenler, enstrümanın teknik ve ifade potansiyelini keşfetmişlerdir. "Efece", birçok farklı müzik türünde kullanılabilecek kadar esnek bir yapıya sahip olarak değerlendirilmiştir. Katılımcılar, çalgının hem bağlama hem de gitar tekniklerini uygulamaya olanak tanıdığını, aynı zamanda ud gibi diğer enstrümanların tınılarını da çağrıştırabildiğini belirtmişlerdir.

Araştırmanın bulguları ilk izlenimler, performans potansiyeline dair olumlu deneyimler ve olumsuz deneyimler şeklinde üç ana tema altında toplanmıştır. İlk izlenimler arasında alışma süreci, çalgının alışılmadık görünümü ve tel düzenine yönelik şaşkınlık ön plandadır. Olumlu deneyimlerde ise özgün akort sistemi, teknik avantajlar ve farklı müzik türlerine uyarlanabilirlik

ön plana çıkmıştır. Performans esnasında karşılaşılan olumsuzluklar ise çoğunlukla grup tellerin bastırılmasındaki zorluklar ve akort sisteminin getirdiği teknik sınırlamalardır.

Sonuç olarak bu çalışma, bir enstrümanın yaratım sürecinin yalnızca teknik değil, aynı zamanda estetik, kültürel ve bireysel deneyimlerle şekillendiğini göstermektedir. Efece örneği, geleneksel ve modern çalgıların kesişiminde yeni olanaklar sunan, farklı müzik kültürlerinin sentezine imkân tanıyan bir deneysel tasarımı temsil etmektedir. Bu süreçte tasarımcının estetik ve işlevsel beklentileri ile luthierlerin teknik birikimi ve icracıların yorumlayıcı yaklaşımları bir araya gelerek özgün bir çalgının ortaya çıkmasını sağlamıştır.

Enstrümanı çalan sanatçının dokunsal deneyimlerinden biri, fretless enstrümanlarda ilk seferde doğru sesi elde etmenin zorluğudur. Müzisyenler akustik enstrümanları çalarken dokunma duyularına büyük ölçüde güvenirler, bu da ürettikleri sesleri kontrol etmelerine ve ifade etmelerine yardımcı olur (Bongers, 2007). Bir enstrümanın fiziksel boyutlarının genişletilmesi veya daraltılması, müzikal hareketlerde değişikliklere neden olur (Mice & McPherson, 2021). Efece'de, en alt gruptaki tellerin sayısının diğer gruplardaki tellerin sayısından farklı olarak üç olması ve gitar tellerinin olağan sayısı ve düzeninden farklı olması, müzisyenlerin performans sergilemek için ihtiyaç duydukları dokunsal alanı genişletmiştir. Buna, bu gruptaki tellerden birinin daha kalın olması ve perdelemeyle ilgili hareketler de eklenince, icracının aşması gereken bir virtüözlük seviyesi ortaya çıkmaktadır.

Sanatçıların deneyimlerine göre, Efece enstrümanı; ud, cümbüş, fretless gitar ve bağlama gibi enstrümanların tınılarını ve dokularını hibrit bir yapıda aktarabilmektedir; gitar ve bağlama enstrümanlarının bir tür kombinasyonu gibi görünmektedir. Bağlamanın ortak çalma tekniklerinden etkilenen gitar için düzenlenmiş çok sayıda eser ve bestenin yanı sıra, bu iki enstrümanın teknik potansiyellerinin harmanlanması ve her birinin çalma tekniklerinin ortak bir performansa dönüştürülmesine işaret eden çalışmalar da bulunmaktadır (Çoğulu, 2010). Bu çalışmalar daha çok bağlama tekniklerinin gitara uygulanmasına odaklanmaktadır. Gitarın bağlama enstrümanına uyarlanmasına ilişkin çalışmalar yeterli düzeyde değildir (Gerekten, 2020). Bu araştırmanın verilerini tasarımcı, gitar yapımcıları ve icracıların görüşleri oluşturmuş bunların analizi göstermektedir ki Efece'nin orijinal formunun ve performans alanındaki potansiyeli, bağlama-gitar enstrümanlarının performans etkileşimi bağlamında yeni bir perspektif sunabilecek yönlere sahiptir.

Andersen ve Gibson (2017) bir çelloyu modifiye ettikleri araştırmalarında, çellonun yeni tepkiler verebildiğini keşfederler. Bu durum, araştırmacıları enstrümana farklı bir yaklaşım sergilemeye teşvik eder, enstrümanın mevcut hareketlerini ve tekniklerini genişletir ve enstrümanda yeni olasılıkların ortaya çıkmasını sağlar. Çalışma grubumuzdaki müzisyenlerin görüşleri de benzer bir yöndedir. Müzisyenlerin görüşleri, enstrümanın olanakları ve sınırları dahilinde Efece'nin gitar ve bağlama enstrümanlarında yaygın olarak kullanılan mızrap kullanılmayan tekniklerin icrasına olanak tanıdığını ve ayrıca her icracının enstrümandan beklentilerine ve icracının teknik yönelimine yanıt verebileceği doğrultusundadır. Diğer bir deyişle, orijinal enstrümandan çok farklı olan Efece enstrümanı, yeni çalma teknikleri ve stilleri sunar ve icracıdan icracıya farklılık gösteren yorumlama stilleri için bir araç olabilir.

Araştırma, ileride benzer çalgı modifikasyonları gerçekleştirmek isteyen tasarımcılar, luthierler ve icracılar için önemli ipuçları sunmaktadır. Ayrıca, Efece gibi melez yapılar taşıyan çalgıların, müzikte farklı kültürel öğeleri buluşturma potansiyeline sahip olduğu görülmektedir. Geniş bir enstrüman yelpazesine hitap eden bu tür hibrit çalgılar hem geleneksel hem de çağdaş müzik icralarında alternatif bir ifade aracı olarak değerlendirilebilir.