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Research Article

Investigation of body posture problems experienced in baglama teaching process

Murat Kâmil Inanici[1]

Atatürk University Kazım Karabekir Faculty of Education, Yakutiye, Erzurum, Türkiye

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Abstract

This research was conducted to determine the bodily setting problems experienced during the bağlama teaching process and to reveal the search for solutions to these problems. The research was conducted in accordance with the case study design, which is one of the qualitative research designs. The participants of the study consisted of 42 bağlama instrument teachers, 88.1% of whom were male (n=37) and 11.9% of whom were female (n=5). In the study, "open and closed-ended questionnaire form" prepared by the researcher was used as a data collection tool. The data obtained were analyzed according to thematic analysis technique. The research data were analyzed under five themes. These themes are; "Sitting mistakes and solution suggestions", "Instrument Positioning Mistakes and Solution Suggestions", "Right Hand Positioning Mistakes and Solution Suggestions", "Left Hand Positioning Mistakes and Solution Suggestions" and "Use of Apparatus for bodily setting". As a result of the research, it was determined that students experienced bodily setting problems during the baglama vocalization process and that teachers made various practices to overcome these problems.

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Introduction

The theoretical and practical functioning, which is a common feature in all branches of science and art, is similarly seen in the discipline of music. Instrumental and vocal vocalizations are at the forefront of actions for applications in the musical field. It is among the main goals of the field of music education to ensure that these actions for the field of practice are carried out correctly. In this context, in the instrument teaching process, which is one of the main areas of music education, various rules and disciplines are applied to gain the skills necessary for instrument vocalization. The instrument learning process can be defined as the learning process in which the behavior of the performer is exhibited in the period from the initial stage in which basic behaviors towards the instrument are acquired to the advanced stages when certain competencies are achieved. These behaviors are motivation in the affective domain, knowledge of effective working methods in the cognitive domain, and actions taken by the music performer to develop strength and speed for the instrument in the kinesthetic domain. Onder (2021) defines playing an instrument as a physical and mental act and that motivation and intense work are necessary for this process; Canbakan and Taninmis (2022) state that instrument training is a difficult and long process that requires great care. In this regard, Seyhan (2019) emphasizes that there are various skills that need to be acquired by the learner in the process of learning an instrument and that these skills can be

Asst. Prof. Dr., Atatürk University Kazım Karabekir Faculty of Education, Yakutiye, Erzurum, Türkiye. E-mail: muratk.inanici@atauni.edu.tr ORCID: 0000-0002-0908-9668.

listed as providing the right bodily posture suitable for the instrument, mastering the instrument, and producing a correct and clean sound from the instrument.

When the literature on instrument teaching is examined, it is seen that the most critical stage in the instrument learning process is the sitting, posture-holding behaviors that should be acquired at the beginning level. Various researchers on this subject state that posture and holding have an important place among the behaviors aimed to be acquired by the student at the beginning of instrument education (Dikici, 2014; Uslu, 2012; Yinal, 2019). Similar to these approaches, Fenmen (1991) states that the most important issue to be considered in the initial stage of instrument vocalization is to gain the learner the correct body posture and playing position.

It can be said that the main reason for misbehavior in sitting, posture-holding, arm, hand, and finger positioning, which can be summarized as bodily setup, is the inability to perform the harmony process between the physical characteristics of the instrument and the natural structure of the body. On this subject, Sogukcam (2007) states that physical tension in the performer due to the contradiction between the anatomical structure of the instrument and the natural posture of the body; Yildiz (2018), on the other hand, states that the individual's previous learning experiences and stress may have an effect. It is important to identify the problems that may arise in the bodily setting of the students from the beginning of the instrument education and to prevent the settling of the wrong habits learned by intervening (Saylam et al. 2021).

In the instrument vocalization process, each instrument is performed within certain and measurable physical frameworks, although the forms of body postur differ according to various vocalization and teaching approaches (Yagisan and Aydos 2004). When the literature on the baglama teaching process is examined, no research has been found to determine the bodily setting problems and what the bodily setting standards are in the baglama teaching process. Examination of body postur problems in the baglama teaching process can contribute to the planning and implementation of the individual instrument baglama teaching program. The problem of this study is that the body postur problems have not been examined in the baglama teaching process until now. Based on the stated problem situation, this study was carried out to determine the body postur problems experienced by the students during the baglama teaching process based on the opinions of the individual instrument baglama teachers of Fine Arts High School (GSL). Based on the problem situation, the problem question of the research was formed as follows: "What are the teachers' determinations about the wrong learning behaviors of the students in the body postur stage in the baglama teaching process and what are the practices to prevent learning mistakes?" The research questions addressed in relation to this identified problem question are as follows:

- In the baglama teaching process, what are the students' wrong learning behaviors in positioning the instrument on the knee? What kind of applications are made to solve this problem?
- What are the wrong learning behaviors of the students regarding the correct positioning of the hand holding the tezene? What kind of applications are made to solve this problem?
- What are the students' incorrect learning behaviors regarding the correct positioning of the hand on the instrument's fingerboard? What kind of practices are done to eliminate this problem?
- Are any auxiliary apparatus used to overcome the problems of body postur?

The Importance of Body Posture in the Instrument Vocalization Process

Bodily posture is bringing a part of the body, arm, hand, fingers or all of them into the desired shape for a certain behavior to take place. When this posture is not correct, in addition to the problems that may arise in the display of the desired behavior, there may also be problems in the bodily region that will reveal the behavior. Yildiz (2018) states that performing for a long time with incorrect bodily posture will cause permanent physical problems in the body. These problems are referred to as "musculoskeletal" problems in the literature. The fact that the neck and shoulders of the employees remain in a fixed position and perform movements with a large number of repetitions is a situation that is effective in the formation of problems based on musculoskeletal system disorders (Esen & Figlali, 2013). In addition to athletes, instrument performers, who are called athletes in the field of music (Elbaum, 1986; Wilson 1986), are among the groups that experience musculoskeletal problems the most. A large proportion of professional or beginner musicians

experience musculoskeletal problems during the instrument vocalization process and these problems can seriously damage their professional future (Steinmetz et al. 2008). Musculoskeletal disorders caused by incorrect body posture cause physical and mental problems for instrumental performers throughout their professional careers. Therefore, bodily posture exercises are of great importance in order to avoid musculoskeletal problems and to improve instrument performance. When the literature is examined, it is seen that various researchers state that physical posture has an important place among the behaviors aimed to be gained by the student at the beginning of instrument training (Dikici, 2014; Seyhan, 2019; Uslu, 2012; Yinal, 2019). Seyhan (2019) states that physical posture is important in terms of technical and aesthetic appearance in the instrument vocalization process and emphasizes that the correct physical posture will contribute to minimizing the physical discomfort that may arise from playing the instrument.

An individual who plays an instrument needs to make a lot of effort until he/she brings his/her instrument playing skills to the intended level. As the individual practices his/her instrument regularly and hard, he/she learns new techniques and his/her field of expression becomes richer and wider (Canbakan & Taninmis, 2022). The general opinion in instrument training is that increasing technical capacity will bring success in the instrument. Yildiz (2018) states that energy is used inefficiently while performing the instrument in posture positions based on incorrect bodily posture and as a result, the body is strained; and emphasizes that bodily posture directly affects the performance by affecting the efficiency and musculoskeletal system of the instrument performer. Therefore, in order to avoid these problems and to increase the technical capacity in instrument performance, one of the most important activities to be carried out is the realization of the correct bodily posture in accordance with the anatomical structure of the instrument to be played.
Failure to create the appropriate bodily posture for the task to be fulfilled related to the psychomotor domain may cause various physical discomforts in the individual. Considering that the muscles and skeletal structure are the main effective elements in the display of a psychomotor behavior, the muscles and skeleton are the elements that will be most negatively affected as a result of incorrect physical posture. Elbaum (1986) states that occupational musculoskeletal disorders in the musical field are caused by the interaction between the individual's bodily posture, the instruments he uses -the instruments of musicians are the instruments they use- and his environment. For this reason, the wrong bodily setup can cause various physical and mental problems in musicians. Yildiz (2018) states that performing an instrument for a long time with the wrong bodily posture will create permanent physical problems in the body. Canbakan and Taninmis (2022) state that musicians who aim to improve their vocalization skills experience certain physical discomforts or disabilities during the playing process, which causes them to move away from their instruments, decrease their working efficiency, become distracted, and experience psychological and mental problems. Yagisan (2002) states that the individual needs muscle power in order to provide a bodily posture suitable for the anatomical structure of the instrument. Therefore, the correct bodily posture and the development of the muscles are necessary for the vocalization of the instrument; it is possible to say that the muscles developed in this direction also contribute to the maintenance of the correct bodily posture and that there is an interactive relationship. Yagmur (2002) on this subject, muscle strength; He states that it is an important element because it helps the joints to work in a balanced way, to move efficiently and to reduce the risk of injury in the musculoskeletal system. Yildiz (2018) states that it is not enough to do only technical studies to increase the quality of musical interpretation; states that besides these studies, body postur studies are also necessary and they affect the quality of interpretation positively. Hopa (2004) states that the reason for the physical and mental problems that occur during the performance is due to not being aware of or not taking into account the mistakes of bodily posture. According to Fenmen (1991), the instrument study process is a process that involves making psychomotor behaviors spontaneous and performing these behaviors in a way that does not tire the body. Yıldız (2018) states that the body postur works carried out in the instrument vocalization process ensure the formation of cognitive and psychomotor coordination, and as a result, the problems that may be experienced in this area can be overcome while the instrument is playing. For this reason, one of the most important elements of the instrument study process is the efforts to ensure the correct bodily posture.

Causes of Bodily Disorientation

The body postur problems experienced in the instrument performance process are similar to the problems experienced in other professions in terms of the quality of the emergence conditions. The main causes of bodily posture disorders associated with musical practices are pain and specific muscle disorders following constant repetition, as well as features specific to the anatomical structure of the instrument (Steinmetz et al. 2008). Elbaum (1986) states that a certain part of individuals who perform in a profession are predisposed to experience potential physical problems while performing repetitive movements based on professional practices. Esen and Figlali (2013) stated that the repetitive movements of employees pose a great risk for musculoskeletal disorders; They state that tasks involving excessive repetitive movements of the shoulder, elbow and wrist joints cause discomfort in these areas. In this context, it can be said that instrument performers operating in the field of music requiring psychomotor behaviors, where musculoskeletal movements are used intensively, may also experience certain physical problems. Regarding the reasons that cause these problems, it is emphasized that the instrument may have to enter a position contrary to its natural posture in order to adapt to the anatomical structure of the instrument, and this causes physical tension, and that the problem is physically based (Onder, 2021; Sogukcam, 2007). Yildiz (2018), on the other hand, emphasizes the psychological aspect of bodily posture errors by stating that people's previous learning experiences, anxiety and tensions are related. Moraes and Antunes (2012) state that there are opinions in the literature that musculoskeletal problems in musicians are generally biomechanically based, but other factors are also decisive in the emergence of these problems. Moraes and Antunes (2012), among these elements; They state that there are technical problems such as sudden increase in vocalization intervals, insufficient exercise program, wrong working habits without warming up and stretching the muscles, grasping the instrument with excessive force or tension. Lee et al. (2013) state that instrument vocalization includes movements that are required for prolonged and unsuitable postures, and in this process, musicians become prone to musculoskeletal disorders.

Sitting-posture Holding in Instrument Vocalization

It is possible to list the body postur stages for the instrument as sitting or stance in the first stage, and holding in the second stage, depending on the vocal style and anatomical structure of the instrument. In the vocalization of some instruments, such as the violin or viola, the choice of sitting or posture behavior changes depending on the situation of playing the instrument sitting or standing. Although they can sing the instrument standing up, most of those who play the violin or viola perform the instrument seated in the orchestra (Linden et al., 2009). However, in the performance of some instruments such as cello, piano or baglama, only sitting behavior occurs as the first stage of bodily installation, regardless of preference. What Esen and Figlali (2013) have done about posture behavior; It is also possible to adapt the definition of “positions of the body, head, trunk, arm and leg parts during movement” for sitting behavior. In this case, the sitting or posture at the stage of body postur for the instrument; It can be defined as the position of the head, shoulders, torso, arms, legs, hands and fingers to sing the instrument. On the importance of correct posture, Mattila et al. (1993) state that the appropriateness of working postures for performing any task allows effective control of working performance. Correct posture is also referred to as a set of movements that are technically named in instrument vocalization and include appropriate behaviors towards the instrument. Johansson (2015) defines technique on the instrument as the complex coordination behaviors related to the motor skills necessary for the proper use of the instrument, especially correct posture, correct positioning and use of the fingers, and the correct grip of sound generators such as the bow or "tezene" used in instrument voicing. In this definition, the bodily posture behaviors for the instrument, both posture-sitting and holding behaviors are considered as a whole. However, even if the posture or sitting behavior to sing an instrument can be performed correctly, mistakes can be observed in the behavior of holding the instrument. In this context, correct holding behavior should be evaluated and defined separately from posture-sitting behavior. Grip for the instrument; It can be defined as the whole of actions, including touching the instrument, to vocalize the instrument in the stage immediately after the posture-sitting behaviors.

Sitting-stance, Posture, Grip in Bağlama Vocalization

The first of the two basic practices in "bağlama" vocalization is the "tezene" strokes applied to the string to both produce sound and to determine the temporal length of the sound; the second is the finger pressures made with the fingertips (distal phalanx) to determine the frequency of the sound by bringing the string into contact with the frets on the

fingerboard. Depending on whether the individual is left-handed or right-handed in baglama vocalization, the hands involved in performing these actions differ. In this study, explanations for bodily posture in Baglama will be explained on the basis of the active use of the right hand.

Correct sitting-posture and holding actions for the baglama instrument include various and sequential bodily posture compatible with the physical structure of the instrument. The act of sitting, which is the first step of the integrity of the body postur for baglama vocalization; It is possible to define it as the position taken by the head, shoulders, trunk, arms and legs to play the instrument. The instruments in the baglama family are similar to each other in terms of an anatomical structure. The main parts that make up this structure are the hull (hull), the cover (chest), the handle and the screw. In the baglama teaching process, it is aimed that the learner performs sitting-oriented behaviors as the first action of the preparation behaviors for vocalization. Positioning the boat of the Baglama on the knee is the dominant element of the sitting action in Baglama vocalization. Although baglama is performed standing up in the minstrel tradition of the Kars region (Bektas, 2022), when the literature on baglama education is examined (Ekici, 2012; Kalender and Keskin, 2010; Karahan, 2010), it is seen that the general acceptance is for the baglama to be performed sitting down. The correct positioning of the boat on the knee is the prerequisite behavior for the correct realization of the holding action, which is included in the successive actions of the bodily installation.

The holding action, which is the second step of the integrity of the body postur in baglama, can be explained as a two-part action that comes after the sitting stage and requires contact with the instrument. In the first part, putting the instrument on the right knee; grip between the right abdomen, right knee and right arm to keep the boat stable on the knee; In the second part, the actions of placing the instrument's handle on the oval area between the thumb and index finger of the left hand (the area where the thenar muscles are located between the 2nd metacarpal bone on the palmar surface and the 1st proximal phalanx bone) are performed. This posture, which consists of two parts, also forms the basis for the right and left hands to be operated separately, which are applications for vocalizing Baglama and based on the principle of teaching from simple to complex. In order to ensure that the left hand and fingers, which will press on the frets of the baglama, can move freely, the part of the right hand between the wrist and the elbow when holding the instrument is positioned in the middle of the chest between the lower threshold and the last fret, in order to provide balance and to perform the "tezene" strokes. It is held by bringing the handle of the instrument to the oval area between the thumb and index finger of the left hand. This grip is a prerequisite for performing the pressure on the curtains as well as the balance function, albeit a little. Considering that students who are new to baglama vocalization may have problems with using both hands at the same time and providing coordination between hands, it can be said that two-part bodily posture work is important because it can contribute to the solution of this problem.

The use of the "tezene", which is an auxiliary element in the vocalization of "Bağlama", can also be evaluated within a holding action. It is possible to explain the "tezene" grip as the act of holding between the tips of the thumb and index fingers (1st distal phalanx and 2nd distal phalanx).

Method

In this part of the research, the research model, study group, data collection tools, data collection process, data analysis and ethical procedures are included.

Research model

In this study, the case study design, which is a common form of qualitative research, was used. Yildirim and Simsek (2011) define qualitative research as the studies in which qualitative data collection tools based on document review, observation and interview are used and the process of explaining events and perceptions in their conditions with a holistic and realistic approach is followed. According to Merriam (2013), a case study is an in-depth description and examination of a limited system.

Study group

The study group of the research was determined by using the criterion sampling method, which is one of the purposive sampling methods used in qualitative research. Criterion sampling is the creation of a sample based on people, events,

objects or situations that have the qualifications to determine the problem (Buyukozturk et al., 2009). The main criterion for determining the study group by the researcher is that they are teachers who continue individual instrument baglama lessons in Fine Arts High Schools. The study group of the research consisted of 42 teachers working in Fine Arts High Schools affiliated to the Ministry of National Education in Turkey and continuing baglama lessons in the 2022-2023 academic year. The demographic characteristics of the teachers who make up the study group are as follows: The gender distribution was male (n=37) and female (n=5); The age ranges of the teachers are "21-25 years (n=1)", "26-30 years (n=3)", "31-35 years (n=4)", "36-40 years (n=15)" and "Above 41 years (n=19)"; The undergraduate program they graduated from is "Faculty of Education/Music Teaching (n=23)", "Conservatory (n=16)" and "Faculty of Fine Arts (n=3)"; The main instruments of their undergraduate program are "bağlama (n=34)", "violin (n=3)", "ud (n=1)", "piano (n=1)", "clarinet (n=1)". ", "pipe (n=1)" and "cello (n=1)"; The duration of baglama training was found to be "1-5 years (n=5)", "6-10 years (n=6)", "11-15 years (n=6)", "16-20 years (n=8) " and "21 years and over (n=17)".

Data Collection Tools

In this study, "open and closed-ended questionnaire form" was used as a data collection tool. The questionnaire was prepared by the researcher in order to determine the opinions of the teachers about the body postur problems experienced by the students during the baglama teaching process and the practices to overcome these problems. The "questionnaire form", which is briefly defined as a pool of questions, is frequently used to obtain data in social science research (Buyukozturk, 2005). While preparing the questionnaire, the literature related to the main purpose of the research was examined in order to ensure internal validity and a question pool was created within the scope of this purpose. During the preparation of the questions, care was taken to ensure that the questions were clear, comprehensible, impartial, containing data that could reflect the opinions of the respondents, optional and explanatory (Karasar, 2009; Yildirim & Simsek, 2011). The suitability of the prepared questions for the purpose of the research and the qualitative research method was presented to the opinion of three academicians who are experts in the field of baglama education and was redefined based on these opinions. The questions in the interview form, which took its final form in line with the suggestions made by the experts, were asked to three baglama teachers, who were not in the study group but were similar to the study group, before the application. As a result of the interviews made before the application, the order of some questions was changed according to their priorities, and some similar questions were removed from the questionnaire. In the questionnaire form prepared to determine the opinions of the Bağlama teachers who constitute the study group; "In the Bağlama teaching process, what are the wrong learning behaviors of the students regarding the positioning of the instrument on the knee? What kind of practices do you do to eliminate this problem?", "Can you specify what are the wrong learning behaviors of the students regarding the correct positioning of the hand holding the tezene? What kind of practices do you do to eliminate this problem?", "Could you indicate what kind of incorrect learning behaviors the students reveal about the correct positioning of the hand on the instrument's fingerboard? What kind of practices do you do to overcome this problem?", "Do you use any auxiliary apparatus besides lecturing and demonstration technique to overcome the problems you mentioned? If yes, what kind of auxiliary apparatus do you use?".

Data Analysis

The obtained data were analyzed according to thematic analysis technique. Thematic analysis focuses on meaning across the dataset, allowing the researcher to see and make sense of common meanings and experiences (Braun & Clarke, 2012). In the data analysis process of the research, the answers given by the participants to the questions in the questionnaire were coded to reflect the content, and themes were created and listed. A scope was determined by arranging the emerging themes, and the answers given by the baglama teachers were evaluated according to this context and organized in a logical and meaningful integrity. At the reporting stage of the research, the teachers in the study group were defined with codes such as T.1., T.2., ...T.42. In order to ensure the internal reliability (consistency) of the research, the data were analyzed by the researcher, and a mutual decision was reached by taking the opinions of two field expert academicians who were not involved in the research for the accuracy of the findings.

Data Collection Process

Research data were collected by online method. During the data collection phase, the interview questions prepared through Google Forms were sent to the teachers through online data collection. (interview questions are available at https://forms.gle/SKyXfiAQXn68BvvL8). The data of the research were obtained from 42 teachers who continued their baglama lessons in Fine Arts High Schools affiliated to the Ministry of National Education in Turkey and were determined on a voluntary basis. The teachers were informed that participation in the research was optional and the results would be kept confidential.

Findings

The wrong learning behaviors of the students at the bodily posture stage in the baglama teaching process and the teachers' practices to prevent these learning mistakes were examined under five themes. These themes are: "Sitting Mistakes and Solution Suggestions", "Instrument Positioning Mistakes and Solution Suggestions", "Right Hand Positioning Mistakes and Solution Suggestions", "Left Hand Positioning Mistakes and Solution Suggestions" and "Using Apparatus for Bodily Posture".

Theme 1. Sitting Mistakes and Solution Suggestions

Under the theme of "Sitting Mistakes and Solution Suggestions", information about the participant teachers' determinations regarding the students' incorrect learning behaviors at the sitting stage during the bağlama teaching process and their practices to prevent these incorrect learning behaviors are given.

Table 1. Teachers' determinations about students' wrong learning behaviors in the sitting phase

Wrong learning behaviors	f
Inability to sit with the back straight	33
Inability to adjust the span of the legs	23
Inability to properly place feet on the ground	22
Sitting bent over while playing the baglama	2
Inability to correctly position the binding on the knee	2

Table 1 shows that teacher's determinations regarding the wrong learning behaviors of the students in the sitting stage in the Baglama teaching process are as follows; "Inability to sit with the back straight (f=33)", "Inability to adjust the span of the legs (f=23)", "Inability to properly place feet on the ground (f=22)", "Sitting bent over while playing the baglama (f=2)" and "Inability to correctly position the binding on the knee".

Table 2. Teacher practices to prevent students' mislearning behaviors at the sitting stage

Sub Themes	Categories	f
Use of auxiliary tools	Using a mirror while playing an instrument	16
	Use of a footrest	2
	Use of non-slip soles	2
	Watching visuals and videos	1
Bodily posture exercises	Exercises to keep the back straight	26
	Exercises for sitting correctly in the chair	11
	Exercises for shoulders, legs and feet	6
	Exercises for balance position	2
	Drawing a line on the ground and determining where the feet should land	1
Guidance by the teacher	Teacher's demonstration of action as a model	11
	Verbal warning	10
	Making the student self-regulate through self-observation	3

Table 2 shows that the categories under the sub-theme heading "*Using auxiliary tools*" are as follows: "Using a mirror while playing an instrument (f=16)", "Use of a footrest (f=2)", "Use of non-slip soles (f=2)" ve "Watching visuals and videos (f=1)". It is seen that the categories under the sub-theme heading *"Having physical installation"* are as follows: "Exercises to keep the back straight (f=26)", "Exercises for sitting correctly in the chair (f=11)", "Exercises for shoulders, legs and feet (f=6)", "Exercises for balance position (f=2)" and "Drawing a line on the ground and determining where

the feet should land (f=1)". It is seen that the categories under the sub-theme heading "Guidance by the teacher" are as follows: "Teacher's demonstration of action as a model (f=11)", "Verbal warning (f=10)" and "Making the student self-regulate through self-observation (f=3)". Some teachers explain their practices to prevent students' mis-learning behaviors in the sitting stage in the baglama teaching process as follows:

I put a non-slip sole to help the student hold the instrument in their lap. I always advise him to stand upright (T1)

The correct way of holding the bağlama also affects the sitting position of the student. In that sense, I care about the right grip. The use of footrests also positively affects the sitting position of short students (T4).

I am trying to express it mathematically in terms of angles. I want the student to check himself in front of the mirror (T17).

Theme 2. Instrument positioning mistakes and solution suggestions

Under the theme of "Instrument Positioning Mistakes and Solution Suggestions", information about the participant teachers' determinations regarding the students' mislearning behaviors in the stages of positioning the instrument on the knee during the bağlama teaching process and their practices to prevent these mislearning behaviors are given.

Table 3. Teachers' determinations on students' mislearning behaviors at the instrument positioning stage

Wrong learning behaviors	**f**
Turn the baglama upwards to see the strings	34
Slide the lacing outwards over the knee	32
Playing the baglama between two knees	14
Playing the bağlama by tilting it downwards	2
Playing the baglama leaning on the left hand	1
Inability to hold the bağlama fully between the abdomen and the knee	1

As can be seen in Table 3 the teacher's determinations regarding the students' incorrect learning behaviors at the stage of positioning the instrument on the knee in the "Bağlama" teaching process are as follows: "Turn the baglama upwards to see the strings (f=34)", "Slide the lacing outwards over the knee (f=32)", "Playing the baglama between two knees (f=14)", "Playing the bağlama by tilting it downwards (f=2)", "Playing the baglama leaning on the left hand (f=1)" and "Inability to hold the bağlama fully between the abdomen and the knee".

Table 4. Teacher practices to prevent students' incorrect learning behaviors at the stage of positioning the instrument on the knee

Sub Themes	**Categories**	**f**
Use of auxiliary tools	Use of non-slip soles	4
	Watching visuals and videos	1
	Using a mirror while playing an instrument	1
Bodily posture exercises	Right arm balance exercises	6
	Grasping the boat between the right arm and the abdomen	6
	Aligning the middle of the right arm based on the lower threshold	5
	Aligning the right arm, based on the top of the boat of the bağlama	3
	Doing right arm balance exercises using tezene	2
	Making balance exercises by placing the instrument on the knee	1
	Sitting and posture exercises	1
Guidance by the teacher	Verbal warning	4
	Teacher's demonstration of action as a model	4
	Make corrections with physical touches	2
	Have the student self-control through self-observation	1

As can be seen in Table 4, the categories under the sub-theme heading "Use of auxiliary tools" are as follows: "Use of non-slip soles (f=4)", "Watching visuals and videos (f=1)" and "Using a mirror while playing an instrument (f=1)".

It can be seen that the categories under the sub-theme title "*Bodily posture exercises"*are as follows: "Right arm balance exercises (f=6)", "Grasping the boat between the right arm and the abdomen (f=6)", "Aligning the middle of the right

arm based on the lower threshold (f=5)", "Aligning the right arm, based on the top of the boat of the bağlama (f=3)", "Doing right arm balance exercises using tezene (f=2)", "Making balance exercises by placing the instrument on the knee (f=1)" and "Sitting and posture exercises (f=1)". It is seen that the categories under the sub-theme title of "Guidance by the teacher" *are as follows:* "Verbal warning (f=4)", "Teacher's demonstration of action as a model (f=4)", "Make corrections with physical touches (f=2)" and "Have the student self-control through self-observation (f=1)". Some teachers explain the practices of students to prevent wrong learning behaviors during the stage of positioning the instrument on the knee in the baglama teaching process as follows:

> *I want the student to do "gravity and balance" consciousness-reinforcing sitting and posture exercises in order to develop the consciousness that will provide the sitting balance of the body (T3).*
>
> *I tell the student to adjust the point where he puts his arm at the level of the lower threshold. In this way, I observe that the bağlama can reach the correct position on the knee as well (T18).*
>
> *I emphasize that the hand should be able to move freely without bearing the burden of the Bağlama handle in works that require agility (T32)*

Theme 3: Right Hand Positioning Mistakes and Suggestions for Solutions

Under the theme of "Right Hand Positioning Mistakes and Suggestions for Solutions", information about the participant teachers' determinations of the students' incorrect learning behaviors during the baglama teaching process and their practices to prevent these wrong learning behaviors are given.

Table 5. Teachers' determinations on students' incorrect learning behaviors during the positioning of the hand holding the tezene

Wrong learning behaviors	**f**
Positioning the hand holding the "tezene" close to the lower threshold	31
The mistake of moving the hand holding the tezene at the elbow instead of the wrist	31
Inability to position the hand holding the tezene at the appropriate angle to the strings	27
Positioning the hand holding the tezene close to the handle of the instrument	17
Inability to adjust the tezene holding length	2
Inability to hold the tezene correctly between index and thumb	1
Playing with support from the cover of the baglama	1
Excessive contraction	1

Table 5 shows that the teacher's determinations regarding the incorrect learning behaviors of the students in the stage of positioning the hand holding the tezene in the baglama teaching process are as follows: "Positioning the hand holding the tezene close to the lower threshold (f=31)", "The mistake of moving the hand holding the "tezene" at the elbow instead of the wrist (f=31)", "Inability to position the hand holding the tezene at the appropriate angle to the strings (f=27)", "Positioning the hand holding the tezene close to the handle of the instrument (f=17)", "Inability to adjust the tezene holding length (f=2)", "Inability to hold the tezene correctly between index and thumb (f=1)", "Playing with support from the cover of the baglama (f=1)" and "Excessive contraction (f=1)".

Table 6. Teacher practices to prevent students' incorrect learning behaviors at the stage of positioning the hand holding the tezene

Sub-themes	**Categories**	**f**
Use of auxiliary tools	Using a mirror while playing an instrument	2
	Watching visuals and videos	1
	Operating by placing an apparatus on the student's palm	1
Bodily posture exercises	Positioning the hand by alignment	14
	Studies for the student's wrist	6
	Practicing holding the tezene between the thumb and index finger	3
	Practicing with and without tezene	2
Guidance by the teacher	Teacher's demonstration of action as a model	7
	Verbal warning	3

Table 6 shows that the categories under the sub-theme of "Use of auxiliary tools" are as follows: "Using a mirror while playing an instrument (f=2)", "Watching visuals and videos (f=1)" and "Operating by placing an apparatus on the student's palm (f=1)". It is seen that the categories under the sub-theme title of *"Bodily posture exercises"* are as follows: "Positioning the hand by alignment (f=14)", "Studies for the student's wrist (f=6)", "Practicing holding the tezene between the thumb and index finger (f=3)" and "Practicing with and without tezene (f=2)". It is seen that the categories under the sub-theme title of "Guidance by the teacher" are as follows: "Teacher's demonstration of action as a model (f=7)" and "Verbal warning (f=3)". Some teachers explain the practices of students to prevent wrong learning behaviors in the stage of positioning the hand holding the tezene in the baglama teaching process as follows:

I make A, B, and C positions on the coverage area of the instrument. C is the point near the lower threshold, B is the middle position, and A is the position close to the combination of the instrument with the neck. I'm getting used to it being in position B at the beginner level (T16).

I show the student how to move the wrist, and I constantly follow the movement of the wrist in practice. If there is no improvement, I will do it make the warnings and follow up until it is fixed (T29).

TI want the student to straighten the thumb by placing any object in the palm (T31).

Theme 4. Left Hand Positioning Mistakes and Suggestions for Solutions

Under the theme of "Left Hand Positioning Mistakes and Suggestions for Solutions", information about the participant teachers' determinations of the wrong learning behaviors of the students during the baglama teaching process and their practices to prevent these wrong learning behaviors are given.

Table 7. Teachers' determinations regarding students' incorrect learning behaviors in the stage of positioning the hand on the instrument's fingerboard

Wrong learning behaviors	**f**
Inability to position the palm correctly	34
Inability to position the fingers vertically on the touch	33
Inability to put the finger on the right spot	32
Moving the fingers too far away from the fingerboard	31
Inability to position the wrist and elbow correctly	3
Keeping the thumb parallel to the handle of the instrument	1
Distorting the body shape by raising the arm from the shoulder	1
Grasping the handle of the instrument completely with the palm of the hand	1
Incorrect positioning of fingers due to nail extension habits in female students	1

As can be seen in Table 7, the teacher's determinations regarding the students' incorrect learning behaviors at the stage of positioning the hand on the fingerboard are as follows: "Inability to position the palm correctly (f=34)", "Inability to position the fingers vertically on the touch (f=33)", "Inability to put the finger on the right spot (f=32)", "Moving the fingers too far away from the fingerboard (f=31)", "Inability to position the wrist and elbow correctly (f=3)", "Keeping the thumb parallel to the handle of the instrument (f=1)", "Distorting the body shape by raising the arm from the shoulder (f=1)", "Grasping the handle of the instrument completely with the palm of the hand (f=1)" and "Incorrect positioning of fingers due to nail extension habits in female students (f=1)".

Table 8. Teacher's practices to prevent students' incorrect learning behaviors at the stage of positioning the hand on the fingerboard

Sub-themes	**Categories**	**f**
Use of auxiliary tools	Watching visuals and videos	1
	Making the student work by attaching rubber wires to fingers	1
Bodily posture exercises	Practicing exercises to teach natural grip	13
	Positioning the hand by alignment	13
	Teaching and practicing elbow angle	1
Guidance by the teacher	Verbal warning	11
	Teacher's demonstration of action as a model	8

	Giving examples of positions in other instruments	1
	Creating a study for the fingers to press vertically on the touch	1

As can be seen in Table 8, the categories under the sub-theme heading *"Use of auxiliary tools"* are as follows: "Watching images and videos (f=1)" and "Making the student work by attaching rubber wires to fingers (f=1)". It is seen that the categories under the sub-theme title of "*Bodily posture exercises*" are as follows: "Practicing exercises to teach natural grip (f=13)", "Positioning the hand by alignment (f=13)" and "Teaching and practicing elbow angle (f=1)". It is seen that the categories under the sub-theme title of "*Guidance by the teacher*" are as follows: "Verbal warning (f=11)", "Teacher's demonstration of action as a model (f=8)", "Giving examples of positions in other instruments (f=1)" and "Creating an etude for the student to press fingers vertically on the fingerboard (f=1)".

Some teachers explain the practices of students to prevent wrong learning behaviors during the stage of positioning the hand on the touch in the baglama teaching process as follows:

I get the fingers to stand upright on the touch and to press with the tips of the fingers (T13).

I am trying to correct the student's technique by giving an example through the free posture of the hand. I tell students to keep their fingers close to the fret and press straight (T27).

I give examples from the positions on the violin or viola instruments and explain the logic of the position. I let the students release the hand downwards and hold the handle of the instrument without breaking it, and repeat it (T36).

Theme 5. Use of apparatus for bodily posture

Under the theme of "Use of apparatus for bodily posture", information on whether the participant teachers used apparatus to help students gain bodily posture skills in the Bağlama teaching process and what kind of apparatus they used was given.

Table 9. Teachers' use of any auxiliary apparatus to eliminate the problems they identified in students' bodily postures during the Bağlama teaching process

Apparatus usage status	Type and function of apparatus used	f
Using apparatus	Use of anti-slip carpet between the knee and the body to prevent the body of the instrument from slipping	6
	Use of footrests to ensure correct sitting	4
	Use of rubber wires to prevent fingers from moving away from fingerboard	1
No apparatus use	Apparatus not in use	36

Table 9 shows that some of the teachers (f=11) used auxiliary apparatus to eliminate the problems they identified in the bodli postures of the students during the "Bağlama" teaching process, while some of them (f=36) did not use any auxiliary apparatus. The auxiliary apparatus used by the teachers were as follows: "Use of carpet anti-slip between the knee and the boat to prevent the boat from slipping (f=6)", "Use of footrest to ensure correct sitting (f=4)" and "The use of rubber strings to prevent the fingers from moving away from the fingerboard (f=1)". Some teachers explained their use of auxiliary apparatus to overcome the problems they identified in students' bodily postures during the Bağlama teaching process as follows:

For some students, I put the piece called "carpet non-slip" on the knee so that the Bağlama does not slip off the knee (T13).

Yes, from time to time I tie the 3rd and 4th finger together with a rubber band (no longer than 15 minutes) (T22).

I use a footrest (T29).

Conclusion and Discussion

According to the research data obtained based on the opinions of the participant teachers, it was concluded that students had various problems at the bodily posture stage during the Bağlama teaching process. These problems are as follows: sitting, positioning the instrument on the knee, not being able to position the hand holding the tezene and not being

able to position the hand on the key. It was concluded that the teacher's practices to overcome these problems were "Use of auxiliary tools", "Bodily posture exercises" and "Guidance by the teacher".

Among the categories analyzed under the sub-theme of "Using auxiliary tools" within the teacher practices, it was determined that visuals and videos were used in addition to the use of mirrors. van der Linden et al. (2009) state that a mirror is used for students who are new to violin performance to monitor their own movements and postures during the bodily posture stage. This situation is consistent with teacher practices. Ozbek and Tunca (2022) examined the effect of photographs in cello methods used in the beginning stage on the learning process. In their research, they concluded that the students in the experimental group observed their bodies through the photographs and realized permanent learning by experiencing the correct playing positions by applying the posture-gesture positioning in the photographs. This result is consistent with the teachers' practices of "Showing visuals and videos". The categories analyzed under the sub-theme of "Guidance by the teacher" within the practices include "Teacher demonstrating the action as a model", "Verbal warning" and "Making corrections with physical touches". van der Linden et al. (2009) state that the way for violin students to achieve correct bodily posture is by observing their teachers and trying to imitate their movements, as well as receiving verbal feedback from their teachers. These practices are consistent with the practices of the teachers in this study, namely "Verbal warnings" and "Tthe teacher demonstrating the action as a model". van der Linden et al. (2009) note that sometimes a teacher can touch students to make them feel how to move their arms or hold their instruments, but this method can be uncomfortable for students and is therefore not highly recommended. In this context, a solution to the problem can be sought with concrete explanations instead of "making corrections with physical touches" which is among the teacher practices.

Akcay and Duzak (2021) state that instrument performers may be vulnerable to injury that may result from incorrect physical posture while developing new skills for the instrument or repeating a previously learned skill, and may experience various injuries due to this situation. In their study, Satici et al. (2019) concluded that students and lecturers in the field of music education experience bodily discomfort in the back, waist and neck, and that they do not have information about the possible discomforts that may occur due to instrument vocalization. These injuries, which are described as musculoskeletal problems, are caused by anatomical and postural effects, the suitability of the instrument for use, the dimensions of the instrument's technique and the anxiety of the musicians (Steinmetz et al. 2008). Musicians need to demonstrate various behaviors before and after bodily posture exercises in order to avoid possible musculoskeletal problems that may arise based on bodily posture. Before practicing bodily posture, musicians should pay attention to their nutrition and sleep patterns as well as doing exercises that will keep them physically fit. In the bodily posture stage, they need to demonstrate behaviors that include exercises that ensure bodily adaptation to the physical characteristics of the instrument. Onder (2021) states that various studies are recommended in the literature to prepare certain parts of the body for instrument vocalization before bodily posture, and that these studies should be organized without and with the instrument. It is stated that warm-up movements without an instrument include walking, jogging at a slow pace, climbing stairs, turning the wrists around and dancing. These studies are similar to the studies of an athlete in this respect. Regarding this issue, Cox (2009) states that musicians, like athletes, should exercise regularly, strengthen their bodies, gain agility, eat and sleep regularly; Elbaum (1986) states that musicians' motor skills should be at the level of an athlete while practicing. In the stage of warming up with the instrument, Onder (2021) states that in addition to providing blood flow to the necessary areas and warming up the muscles, it is necessary to make soft movements using long sounds at a slow tempo.

In the twentieth century different methods of correct bodily posture have emerged. According to Uyar (2017), the most widely used of these methods by musicians is the Alexander technique. Alexander realized that he had various problems while practicing the instrument and thought that the problems he was experiencing might be due to his inability to perform the bodily posture correctly. To detect these problems, Alexander worked in front of mirrors and observed that he tilted his head and neck forward or backward and tightened his neck muscles (Craze, 2011). Chien (2007) states that the guidance in the Alexander technique is related to the relationship between the head, neck and back, and that the commands to be given during the guidance create a good bodily posture. Yildiz (2018) states that according

to the Alexander technique, the instructions in the bodily posture phase should be perceived mentally and it is important to perform these instructions later. According to Yildiz (2018), the directions made without being perceived mentally cause a tension, and in order to prevent this tension, the directions should be thought before they are made and performed slowly. Learning the correct posture positions, strengthening the muscle groups that will be used the most according to the instrument, increasing endurance, providing sufficient flexibility in the necessary muscles, tendons and ligaments are the most important steps in preventing these problems (Onder, 2021). Sogukcam (2007), on the other hand, states that in the physical posture stage of the instrument vocalization process, physical posture mistakes can be prevented by doing the sitting-posture and grip positioning in front of the mirror, by making a video recording and allowing the person to see self or by constantly checking with the help of peer criticism. Yagisan (2004), on the other hand, states that physiotherapy is one of the most frequently used methods that gives positive results in problems related to instrument performance based on bodily posture at the beginning stage, and emphasizes that many physiotherapists in the world have branched out by developing methods for diagnosis and treatment according to instruments.

Oguz et al. (2021) stated in their study that all of the teachers who participated in the research emphasized that bow grip and posture training has a very important place in instrument teaching. Dikici (2014) concluded in his study that all of the students in the participant group had the opinion that correct posture in instrument vocalization solved the intonation problem. Gercek (2010) states that in the oud methods that he analyzed by comparing them in terms of teaching content, there are findings that incorrect posture, posture and sitting are physically uncomfortable and have an inhibiting effect on achieving the necessary performance in instrument vocalization. Cakirer and Kinik (2014) state that Bağlama instructors attach great importance to the behaviors related to posture and sitting, that these behaviors directly affect the future stages of the Bağlama vocalization process, and that the problems in this regard should be solved within the scope of initial training. In order to avoid problems based on bodily posture in the instrument vocalization process, it is important to perform correct bodily posture studies both at the beginning and at later stages.

Limitations of the Study and Suggestions for Future Studies

The results of this study should be evaluated within the scope of some limitations. The first limitation is that the bodily posture problems of beginning high school students were examined in the study. It may be recommended to examine the problems of bodily posture at the beginning level not only for high school students but also for students who have just started to perform Bağlama at primary, secondary and undergraduate levels. Since the research data are evaluated descriptively, the "cause-effect" relationship cannot be explained. It may be recommended to conduct studies that can reveal what the causes of bodily posture mistakes are. The second limitation is that the data in this study were collected based on the opinions of high school teachers. The determinations regarding the bodily posture mistakes can be further generalized based on the opinions of teachers who teach Bağlama at primary, secondary and undergraduate levels. In addition, studies can be conducted to determine the views of students, who are the most important stakeholders of teaching.

Statements of Publication Ethics

The permission of the research was obtained from Atatürk University Scientific Research and Publication Ethics Committee (Document dated 30.12.2022 and numbered E-29202147-101.02.02-2200438345).

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Authors Biodata

Dr. Murat Kâmil İnanıcı works at Atatürk University Kazım Karabekir Faculty of Education in the field of music education. He conducts research in the field of instrument education.

Atatürk University Kazım Karabekir Faculty of Education, Yakutiye, Erzurum, Türkiye. E-mail: muratk.inanici@atauni.edu.tr ORCID: 0000-0002-0908-9668

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