Gök, M. & Şen, Ç. (2022). Evaluation of the physical and acoustical competences of vocational music education institutions in terms of the requirements of music education. *International Online Journal of Education and Teaching (IOJET), 9*(1). 284-307.

Received : 23.09.2021
Revised version received : 06.12.2021
Accepted : 08.12.2021

EVALUATION OF THE PHYSICAL AND ACOUSTICAL COMPETENCES OF VOCATIONAL MUSIC EDUCATION INSTITUTIONS IN TERMS OF THE REQUIREMENTS OF MUSIC EDUCATION.

(Research Article)

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Abstract

The purpose of this research is to evaluate the buildings of higher education institutions in Turkey, where vocational music education is delivered, in terms of physical and acoustical sufficiency. This research is a descriptive study conducted with qualitative method and survey model. The population of the research consists of all of the buildings of the higher education institutions in Turkey, where vocational music education is delivered. Data of the research have been collected through semi-structured interview from instructions who serve in a total of 85 different higher education programs in Turkey, where vocational music education activities are conducted. It was determined in line with the collected data that there are important deficiencies in the buildings of the university institutions in Turkey in terms of both physical and acoustical sufficiency, where vocational music education is delivered. On the other hand, only 14% of the instructors stated that the institutional buildings meet the acoustical needs required by vocational music education. In conclusion, this study tries to make suggestions for the solution of the detected problems in order to create a certain standard in physical and acoustical aspects in the buildings of higher education institutions, where vocational music education is delivered.

Keywords: vocational music education, physical properties of building, acoustic comfort, building acoustics

1. Introduction

Acoustics deals with formation and spread of sound waves physically and physiologically and the concept of acoustics is addressed on two grounds as ‘noise control’ and ‘room acoustics’. In addition, architectural acoustics deals with the acoustical properties of indoor spaces and structures with architectural content (Öz, 2017, p. 122). One of the most important problems in terms of architectural acoustics is without doubt the ability to convey the sound source to listener/audience healthily and comfortably. The frequently faced problems in this context can include hearing too much or too little sound, buzzing or echoing of the sound sent from the source.

The study field of architectural acoustics includes generation and spread phases of sound in any space. However, selection and layout of the finishing materials that are used according to geometrical shape and absorption level of a space are also important. In order to measure acoustics of a space, acoustic analysis methods must be used and their results must be subjected to a series of mathematical calculations (Kurtay, Eryıldız, & Harputlugil, 2008, p. 558).

The process of social development in the history of humanity has increasingly brought in the need for designing all public spaces where individuals gather in masses, for purposes that are more specific. Today, we see that various types of buildings are designed in a way that they are planned for specific purposes such as educational buildings, hospital buildings, public service buildings, office buildings, and industrial purpose buildings. Even considering only, the institutional buildings aimed for education among the abovementioned types of buildings, it can be said that these buildings are designed taking into consideration different variables such as educational purposes or age group of students. Educational structures not only shape the infrastructure of the education system but also yields one of the basic inputs for forming the educated persons, creating environmental taste preferences, and developing social and cultural relations (Güzer & Özgenel, 2019, p. 1).

The first time when music education was ever delivered in institutionalized autonomous buildings was the use of the educational institutions named conservatory for music education. The first known description of conservatory was specified in Evelyn's manuscripts in the year 1664 (Chambers, 1992, p. 202). Considering that all of the Middle Age choir schools, even musical schools, were affiliated to the church, it can be said that conservatories were the first secular institutions equipped for practical music education, as they were independent from the church spatially (The Editors of Encyclopedia Britannica, n.d.). The model of delivering music education in autonomous buildings spread from Italy, France, and England to the whole of Europe, then to the whole world.

Schooling process in the field of polyphonic music in Turkish history started with Musika-yı Hümayun (Imperial Orchestra) in 1830s (Alimdar, 2016, p. 86). Besides, the first autonomous music education school in the history of the Republic of Turkey is Musiki Muallim Mektebi (Music Teaching School), starting educational activities on 1924. Musiki Muallim Mektebi started its educational life in a hotel consisting of three adobe and wooden buildings, in which the Ottoman music ensemble was settled for accommodation, upon being assigned as Riyaseti Cumhur Musiki Heyeti *(Presidential Music Ensemble)* (Çakar, 2015, p. 15).

It is possible to mention particularly about German effect in the formation process of institutional music education system in Turkey during the early years of the Republic. The German educators and musicians such as Paul Hindemith, Eduard Zuckmacher, Ernst Praetorius, and Carl Ebert, who escaped from Nazi Germany, arrived in Turkey upon the invitation of Atatürk and served in this field, made important contributions to settling vocational music and arts education on a systematic ground in Turkey through their reports. Hindemith stated the followings in his first report that he delivered, concerning the establishment of Ankara State Conservatory:

> The current building (Cebeci Musiki Muallim Mektebi building) is not eligible for an efficient study. The art room's illumination that was installed in a way that nothing can be seen is meaningless for everyone. The classrooms given to the instrumentalists and singers are small rooms where hearing a sound is gradually lost and sounds just hit the ears of instrumentalists. While having a class in one of these rooms, sounds from at least six neighbors can be heard. No student can ever sing clearly or can learn to play clearly here. Rooms are too close to each other and there is no sound insulation. An architect who is substantially competent on the requirements of music lessons must structure the building in order to make the building usable (Kahramankaptan, 2013, pp. 88, 98).

It is beyond doubt that there would be less technical knowledge that could meet the optimum conditions for the music buildings compared to today's conditions and the financial

sources that could be assigned by a country, which had just come out of wars, for this field would be very limited, in the very beginning of the history of the Republic of Turkey. Educational structures that are designed in compliance with their functions have been widespread in Turkey in time.

Today, there are new perspectives in the field of architectural acoustics. In modern architectural understanding, it can be said that all institutional buildings in which educational activities are conducted have to meet some purposive minimum physical conditions. When it is required to assess building performance in proportion with the level of user comfort for the indoor space of a building, the main determinants of the performance can be listed as ambient temperature, air quality, illumination level, and noise and sound control (Kurtay et al., 2008, p. 557). In addition to these, it is very important to think about and calculate acoustical conditions in all structures in which various activities are conducted, depending on the need for auditory communication, and to ensure audial comfort accordingly. In this context, the physical conditions of a room, classroom or various study rooms and their acoustics quality based particularly on audial comfort must be considered as the most important design parameters for building design, in order to conduct the education process with the desired quality and without any disruption (Karaman & Üçkaya, 2015, p. 503). According to Demirel et al. (2018, p. 543), joint use and solution of speech and musical activities, which require acoustical conditions that are opposite to each other in architectural acoustics, create the most difficult type of space.

There are many research conducted on acoustics assessments of buildings. (Demirel & Özçetin, 2014; Henry, 1856; Korkut, 2011; Kul, 2018; Özçevik, 2005; Özyıldırım, 2010). Besides, there are few research related to acoustical designs of educational buildings in literature. Particularly, there is very little research in Turkey on acoustical, physical, and architectural conditions of the buildings of institutions such as music education department, faculty of performing arts, or conservatory, where sound-based education is delivered. Karahan (2016, p. 192) states in his research that by the year of 2016, there was no academic study on the properties and standards that buildings of Music Education Departments must have. According to Untuç & Akdağ (2017, p. 12), there is a need for spaces and areas that have noise insulation and offer high audial comfort, in order to ensure an efficient educational environment in buildings of conservatories, which are one of the important structures in terms of noise control and acoustic comfort. In such buildings, noise can originate from outside of a structure due to transportation and outdoor activities, as well as from inside of a structure due to adjacent spaces, mechanical and installment equipment. Therefore, the requirements related to sound insulation that could ensure acoustic comfort environment should be determined in such type of buildings, evaluating together the noise levels and noise sensitivities inside classrooms and of adjacent spaces that interact with classrooms. In his study, Karahan (2016, p. 193) tries to reveal that as a standard, there is a need for at least several independent rooms for applied courses in an undergraduate program of music education. The research does not mention about the acoustical properties of the buildings of institutions, yet the data obtained from the expert opinions on what the ideal number of classrooms/study rooms should be for departments of music education departments were revealed, basing on the relational calculations among the weekly duration of each class, the number students, and the number of instructors.

Most of the education institutions dedicated to music performance activities are not equipped with adequate spaces in order to ensure good acoustic practice environments (Tămaş-Gavrea, Munteanu, Fernea, & Loghin, 2019, p. 170). According to Kramme (1978, p. 11), through a sampling of various sources, the optional reverberation time for a choral rehearsal room has been found to be approximately 1.1 seconds. Although most assessments

of room acoustics begin with reverberation time calculations, recent research has revealed that the quality of speech and music is greatly affected by the degree to which the sound is diffused within the room. Koskinen et al. (2010) searched facilities for music education and their acoustical design. In this research, whether the Finnish code is sufficient for music buildings was investigated with an experimental model. The Finnish code acknowledges that the music being played sets requirements for rooms and it provides recommendations for room volumes and reverberation times. Design issues are referred to in Standard No. SFS 5907:2004 (FSA, 2004). In their research, they found that The Finnish code of conduct is not sufficient for facilities where loud instruments are played, or band practices are performed. Good facilities can be designed but they must be specified at the designing stage for their intended use. According to Zha et al. (2002, p. 219), The Compound Panel Absorbers and Broadband Compact Absorbers in a novel combination with Microperforated Foil Absorbers make it possible to treat the problems because of their effectiveness and small thickness, especially at particularly disturbing low frequencies.

There has been a dramatic increase in the numbers of both public universities and foundation universities during the last two decades in Turkey. The quantitative increase in the number of universities naturally gives rise to sharing the budget assigned to higher education in terms of public universities. With a similar approach, the increase in the number of universities obliges to inquire and describe the qualitative situation for the educational and R&D activities. According to the Council of Higher Education (YÖK) information management system data, there are 129 public universities and 74 foundation universities in Turkey (YÖK, n.d.). Upon the establishment of new public universities and foundation universities, the number of the programs, departments, or faculties that are established within the body of such institutions and that deliver vocational music education increases day by day, too (Topoğlu & İşgörür, 2013, p. 1309). It was found that there were a total of 116 vocational music education programs by the year of 2015, 106 of which being public universities and 10 being foundation universities (Gök, 2018, p. 289). The undergraduate programs that deliver vocational music education in Turkey can be listed as Turkish music state conservatories, classical music conservatories, divisions of music teaching under fine arts education departments affiliated to faculties of education, departments of music sciences/musicology and music technologies under faculties of fine arts, faculties of music and performing arts, and departments of music. In line with the information obtained from the abovementioned studies, the basic requirements for conducting a qualified and eligible music education at university level can be listed as follows, however they can vary based on the content of the educational program:

- Classrooms that have pianos inside for collective theoretical classes
- Individual musical instrument and piano study rooms
- Rehearsal rooms for choir, chamber music, and orchestra classes
- A concert hall and mini auditorium where students and academic members can exhibit their art organizations

The average necessities for vocational music education differ slightly based on the type of the program; however, the items listed above suggest an average requirement. In addition, all classes and study rooms, and concert and rehearsal rooms should be taken under control in terms of musical and architectural acoustics. In case this situation cannot be met, the sounds propagated will adversely affect both the individuals in the environment where music education is conducted and all the individuals in other departments, faculties, or colleges and in the buildings that are shared with music education departments. Musical studies conducted in spaces that do not have acoustical calculations and acoustic insulation will be interrupted for the reasons such as clangor, echo, and blurring of the sounds, and will not be able to

exhibit the expected effectiveness. In this sense, the hypothesis of this research is comprised of the idea that there is a need for institutional buildings, which are designed independently (autonomous) for a qualified music education and for the purpose of music education, are acoustically insulated, have sufficient illumination environment for reading musical notes, have ventilation, and can form an aesthetical basis for the spirit of fine arts education.

This research aims to analyze and assess the institutional buildings where the undergraduate programs of vocational music education are conducted under YÖK in Turkey in terms of physical and acoustical sufficiency in the context of the conceptual framework explained above. In line with this general framework, the problem statement of the research can be expressed as follows: "How are the acoustic and physical characteristics of the institution buildings where vocational music education is given in Turkey, in terms of the requirements of music education?" Within the framework of this main problem, the following sub-problems were also investigated within the main problematic of the research:

1. What is the numerical distribution of students, lecturers and study rooms in professional music education programs in Turkey?
2. What are the physical properties of music buildings?
3. What are the acoustic properties of music buildings?
4. What are the physical and acoustic properties that institution buildings should have for an ideal music education?

2. Method

This research is a descriptive study based on survey model in quantitative method, in terms of reporting the addressed problematic. Survey study is the description of the situations and events that fundamentally exist, without making any change as they are (Tuncer, 2020, p. 223). Survey research is a method prefer in order to determine the attitudes, behaviors, opinions, or beliefs of individuals about the subject (Christensen, Johnson, & Turner, 2015, p. 336). It is important to reach an extensive sampling that can represent the population to be generalized, since it is aimed to reach generalizations in a survey type research (İlhan, Güler, & Taşdelen Teker, 2020, p. 80).

Survey model was used in this study in order to receive the opinions of the instructors, who serve at the units that have vocational music education program at undergraduate level in the public higher education institutions in Turkey, on whether the institutions where they work are physically and acoustically sufficient and compatible to the needs of vocational music education. The research was conducted in the year 2020 and cross-sectional survey type of survey model was implemented.

The purpose of the research is firstly to determine the existing physical and acoustical conditions of the institutional buildings, thus classrooms, where undergraduate level vocational music education program is conducted in Turkey. The second purpose of the research is to develop solution suggestions for conducting vocational music education under ideal conditions and qualified provisions and to contribute to generating minimum standards, by means of determining the sufficiency and deficiencies in this framework.

The research is original by its subject as it is the first study in the field to reveal the physical and acoustical conditions in spatial aspects in the higher education institutions in Turkey, which have vocational music education programs.

2.1. Participants

Study data were obtained from the instructors who served at institutions that have vocational music education at undergraduate level in Turkey in 2020. In order to achieve this, firstly, the public universities included in the Higher Education Information Management System were searched and the units that have vocational music education program were detected. The institutions that do not have any instructors serving in the field of music among these units were excluded from and the units where at least one instructor serves were included in the scope of the study.

No additional sampling selection was applied in the research; the entire population was tried to reach. The sampling of the research was determined according to criterion sampling strategy, which is one of the types of purposeful sampling among nonprobability sampling methods; it also represents the population and it can be generalized to the population.

Purposeful sampling method that can be applied to both individuals and research spaces (Creswell, 2012, p. 206) is primarily adopted in qualitative research, and individuals or institutions related to the questions in the research study are selected purposively based on certain purposes (Teddlie & Yu, 2007, p. 77). This, in a sense, means that researcher decides about from whom to obtain information by estimation while collecting data related to the subject (Korkmaz, 2020, p. 157). According to Maxwell (2009, p. 235), purposeful sampling is a strategy in which certain environments or persons are intentionally selected due to the important data they can provide. Its most important characteristic is that it is used to ensure representation of the selected environments or individuals in the population due to their typical properties. In other words, the main goal of purposeful sampling is to set forth an acceptable sampling as the representative of the population.

The main approach in the criterion sampling, which is one of the strategies of purposeful sampling, is to include persons, situations, or objects that have certain properties into the sampling in order to select the sampling that is directly related to the problem (Özbaşı, 2019, p. 121), since efficiency of the information to collect is an important criterion (Özgen, 2016, p. 175).

In order to collect research data, it was tried to reach all the units that have vocational music education programs among the higher education institutions in Turkey, and the instructors serving at these institutions with an administrative function were contacted primarily. The main criterion to determine the mentioned instructors was to be serving at a higher education institution that has a vocational music education program.

The factor for sampling selection was the idea to collect the current situation of the institutions related to their physical and acoustical conditions from the instructors, who served in field actively in these institutions, would provide totally objective, correct, and rapid data. The other criteria of the sampling was to include the units where at least one instructor in the field of music served and include only public higher education institutions.

The semi-structured interview form that was developed by the researchers in order to collect the research data was sent through e-mail to the instructors, who were reached basing on the pre-determined criteria, and they were requested to answer the questionnaire. The questionnaire was sent to all public higher education institutions that have vocational music education program in Turkey.

2.2. Data Collection

A semi-structured questionnaire form that consists of 44 items and that was developed by the researchers for this study in order to collect data was used in the research. Researchers'

professional observations and experiences were effective in determining the items in the questionnaire. The questionnaire was sent to five lecturers who are experts in their fields for content validity and it was modified and corrected within the framework of the feedback from the experts. Opinions of one linguistics expert and one assessment and evaluation expert on the question items in the questionnaire form were received and the questionnaire was finalized. Besides, a presentation text that gives the participants information about the purpose of the research was presented at the beginning of the questionnaire.

No separate reliability test was conducted for the data collection tool used in the research, since it is not possible to perform an analysis in questionnaires for reliability determination such as internal consistency coefficient and factor analysis (İlhan et al., 2020, p. 93), thus content validity was considered sufficient for the assessment capability of the questionnaire questions.

The items of the questionnaire consist of the questions through which information on situations such as the physical and acoustical properties of institutional buildings and classrooms and their use by instructors who serve in the field of music and by students who receive education can be obtained.

2.3. Data Analysis

The data collected in the research were analyzed categorically and using descriptive statistical methods through SPSS software. Answers given by the participants to each item in the questionnaire were analyzed. The findings obtained as a result of data analysis were evaluated and interpreted. The open-end questions in the questionnaire were classified in the framework of categorical themes by the researchers and three music education experts.

The research reviews whether the data on the number of individual musical instrument playing rooms are distributed normally or not, and reviews the impacts of the extreme values on such data. Firstly, raw scores were transformed into Z scores in order to determine unidirectional extreme values. Upon checking the Z scores, the extreme values that were out of the ±3 interval were observed (Çokluk, Şekercioğlu, & Büyüköztürk, 2016, p. 14). Then, the results of skewness coefficient analysis were checked and it was determined that the data did not meet the normal distribution condition ($p>1.96$) (Bursal, 2019, p. 51). Subsequently, extreme values were tried to determine through both Kolmogorov-Smirnov and Shapiro-Wilk tests. According to Bursal (2019, p. 54), it is possible to ensure data distribution to get closer to normal by excluding data that disturb the normal distribution at the most, respectively, starting from the extreme end values. Therefore, mean numbers of rooms were calculated by excluding the data of six undergraduate music programs that had not admitted any student yet since they were at the phase of establishment, thus did not have any study rooms, and the highest and the lowest extreme values in the normality tests, in order to perform more reliable analyses related to the mean number of rooms per institution. Accordingly, the lower and higher extreme number values were determined as $1\leq n\leq 31$ in order to ensure the data on musical instrument study rooms in the institutions to exhibit normal distribution. Mean values were calculated after excluding the abovementioned extreme values.

The expected physical and acoustical conditions to conduct vocational music education under ideal conditions and qualified provisions were discussed by interpreting the data obtained from the questionnaire and by making inferences. By this way, it was tried to determine the minimum standards required for this subject in order to conduct a qualified vocational music education in these institutions.

2.4. Ethical Procedures

All the procedures that were conducted with human participants in this research were performed in accordance with the ethical committee that was approved upon the decision of the institutional research committee dated 24 July 2020 and numbered 2020/90.

3. Findings

85 music education undergraduate programs out of 110 under the Council of Higher Education, which were determined in population of the research and were delivered questionnaires, answered the relevant forms. The universities from which data were collected in the research and the types of faculties and colleges to which the music education programs are affiliated are given in Table 3. The distribution of the music education programs and faculties from which data were collected within the scope of the research are presented in Table 1.

Table 1. *Types of Music Education Programs from which Data were Obtained*

Unit	*f (85)*	100%
Faculty of Education, Music Education Department	31	37
State Conservatory, Music Departments	23	27
Faculty of Fine Arts, Music Department	13	15
Turkish Music State Conservatory	10	12
Faculty of Fine Arts, Design, and Architecture, Department of Music	6	7
Faculty of Music and Performing Arts, Department of Music	2	2

It was determined that the majority of the teaching staff (62.4%) whose data were obtained in the research also had administrative duties. It is thought that this situation provides up-to-date and accurate information regarding various questions in the questionnaire, such as the acoustic and architectural planning of the institution buildings.

3.1. Service Times of Vocational Music Education Undergraduate Programs

Data on the process of vocational music education undergraduate programs to start their educational activities are given in Table 2.

Table 2. *Service Times of Vocational Music Education Undergraduate Programs*

Activity Status	*f (85)*	100%
Active for 10 years and more	51	60
Active for 5-9 years	14	16.5
Active for 1-4 years	14	16.5
At the Phase of Establishment (No Student Admission Yet)	6	7.1

According to the data in Table 2, 93% of the music education undergraduate programs that participated in the research actively continue their educational activities. Six of the programs are currently in the process of completing the criteria to open a new program set forth by YÖK (ensuring sufficient number of lecturers, eliminating physical deficiencies, and performing general procedures to open a program, etc.). Under these circumstances, it can be

said that the data collected in the research will reflect the physical and acoustical conditions for institutional buildings that are largely used in active educational process.

3.2. The Numbers of Students, Instructors, Musical Instrument Study Rooms, Study Rooms with Piano in Vocational Music Education Undergraduate Programs

The numbers of students, instructors, musical instrument study rooms, study rooms with piano in vocational music education undergraduate programs are given in Table 3.

Table 3. *The Numbers of Students, Instructors, Musical Instrument Study Rooms, Study Rooms with Piano**

No	Higher Education Institution	Unit	Number of Students	Number of Instructors	Number of Study Rooms	Number of Study Rooms with Piano
1	Abant İzzet Baysal University	DMTE	120	23	15	18
2	Adıyaman University	SC*	120	7	4	20
3	Adnan Menderes University	DMTE	150	15	3	10
4	Adnan Menderes University	SC	50	15	8	5
5	Afyon Kocatepe University	SC	300	55	24	24
6	Ağrı İbrahim Çeçen University	DMTE*	95	7	8	8
7	Akdeniz University	FFA*	180	17	8	8
8	Akdeniz University	SC	200	35	2	2
9	Aksaray University	DMTE	110	6	10	10
10	Amasya University	DMTE	0	2	0	0
11	Ankara Hacı Bayram Veli University	TMSC*	150	25	30	0
12	Ankara Music and Fine Arts University	DMTE	28	4	5	5
13	Ankara University	SC	120	20	20	20
14	Atatürk University	DMTE	140	12	10	6
15	Atatürk University	FFA	320	13	16	6
16	Balıkesir University	DMTE	180	19	4	18
17	Bartın University	DMTE	0	3	0	0
18	Batman University	FFA	96	4	10	8
19	Bursa Uludağ University	DMTE	180	25	30	24
20	Cumhuriyet University	DMTE	120	20	15	25
21	Cumhuriyet University	TMSC	0	8	20	4
22	Çanakkale 18 Mart University	DMTE	110	26	40	16
23	Çankırı Karatekin University	FADA*	90	8	0	2
24	Çukurova University	SC	1516	35	10	7
25	Dicle University	SC	176	10	0	0
26	Dokuz Eylül University	DMTE	150	17	30	30
27	Dokuz Eylül University	SC	348	90	2	2
28	Düzce University	STF	70	7	3	5
29	Ege University	TMSC	80	15	5	1
30	Erciyes University	FFA	120	30	30	15
31	Eskişehir Anadolu University	SC	100	10	10	10
32	Fırat University	SC	95	12	10	4
33	Gazi University	DMTE	200	30	30	21
34	Gaziantep University	TMSC	400	24	0	0
35	Gaziosmanpaşa University	SC	80	10	16	4
36	Gaziosmanpaşa University	DMTE	100	10	30	15
37	Giresun University	DMTE	60	4	5	7

38	Giresun University	FFA	13	3	6	2
39	Hacettepe University	SC	500	100	200	120
40	Hatay İskenderun Teknik University	SC	97	11	5	4
41	Hatay Mustafa Kemal University	SC	55	10	11	6
42	Hitit University	FFAD	49	5	6	6
43	Iğdır University	FFA	20	4	4	2
44	İnönü University	DMTE	180	13	20	20
45	İstanbul Technical University	TMSC	60	40	8	10
46	İstanbul University	SC	1000	200	5	5
47	Kafkas University	SC	210	24	12	7
48	Kahramanmaraş Sütçü İmam Uni.	FFA	57	6	0	3
49	Karabük University	GSTF	130	16	12	6
50	Kastamonu University	DMTE	80	7	7	8
51	Kırıkkale University	FFA	150	12	14	8
52	Kocaeli University	FFA	170	12	10	10
53	Kocaeli University	SC	30	9	14	3
54	Manisa Celal Bayar University	FFAD	55	11	2	2
55	Marmara University	DMTE	225	30	25	30
56	Marmara University	FFA	60	10	0	0
57	Mehmet Akif Ersoy University	DMTE	200	15	10	15
58	Mehmet Akif Ersoy University	TMSC	20	5	10	2
59	Mersin University	DMTE	0	2	0	0
60	Mersin University	SC	100	30	5	3
61	Mimar Sinan Fine Arts University	SC	300	60	16	15
62	Muğla Sıtkı Koçman University	DMTE	135	18	15	15
63	Necmettin Erbakan University	DMTE	160	25	8	10
64	Nevşehir Hacı Bektaş Veli University	DMTE	0	2	0	0
65	Nevşehir Hacı Bektaş Veli University	FMPA*	180	5	18	10
66	Niğde Ömer Halisdemir University	DMTE	120	9	24	24
67	Niğde Ömer Halisdemir University	TMSC	135	12	30	8
68	Ondokuz Mayıs University	DMTE	150	11	8	8
69	Ondokuz Mayıs University	SC	120	17	8	8
70	Ordu University	FMPA	316	19	40	20
71	Pamukkale University	DMTE	150	15	20	30
72	Pamukkale University	FMPA	10	20	5	27
73	Sakarya University	SC	200	25	5	5
74	Sinop University	DMTE	0	3	0	0
75	Sinop University	FFA	26	4	4	2
76	Süleyman Demirel University	FFA	89	15	9	9
77	Tekirdağ Namık Kemal University	TMSC	14	9	0	2
78	Trabzon University	DMTE	250	20	5	5
79	Trakya University	DMTE	120	9	10	10
80	Trakya University	SC	198	36	13	4
81	Tunceli Munzur University	FFAD	108	12	0	3
82	Van Yüzüncü Yıl University	DMTE	120	12	4	20
83	Van Yüzüncü Yıl University	TMSC	130	9	11	3
84	Yıldırım Beyazıt University	TMSC	120	9	5	2
85	Zonguldak Bülent Ecevit University	SC	21	11	4	4

*SC (State Conservatory), TMSC (Turkish Music State Conservatory), DMTE (Division of Music Teacher Education), FFA (Faculty of Fine Arts), FMPA (Faculty of Music and Performing Arts), FFAD (Faculty of Fine Arts and Design), FADA (Faculty of Art, Design, and Architecture).

According to Table 3, the number of students who receive education in 85 undergraduate music programs in Turkey from which data were collected is 12,987. A total of 1,635 instructors serve in the field of music in these programs. Five DMTEs and one TMSC were determined in terms of the undergraduate programs that have not started to admit students yet. The programs that have not started their educational activities yet since they do not have students and the extreme values that were out of ±3 interval in terms of Z scores were not included in mean analyses. Under these circumstances, the mean number of individual musical instrument study rooms in divisions of music education (*n, 25*) in Turkey is 14. The mean number of individual musical instrument study rooms is 9.7 in state conservatories (*n, 20*) and 14.9 in Turkish Classical Music State Conservatories (*n, 8*). Considering the music departments affiliated to FFA, FFAD, and FMPA under a single category, the mean number of musical instrument study rooms of the music departments (*n, 16*) in these faculties is 9.8.

The mean number of study rooms with piano in the divisions of music education (*n, 26*) in Turkey is 15.6. The mean number of study rooms with piano in the state conservatories (*n, 21*) is 7.7. Considering the music departments affiliated to FFA, FFAD, FADA, and FMPA all together, the mean number of study rooms with piano in the music departments (*n, 20*) of these faculties is 7.7. Since the Turkish Classical Music State Conservatories may not need piano lessons, thus study rooms with piano, in terms of the targets of the music education program they conduct, the mean number of rooms for these conservatoires were not calculated.

3.3. Physical Properties of Music Buildings

According to the data obtained in the research, 81 (95.3%) of vocational music education institutions continue their education in reinforced concrete or stone buildings, and four (4.7%) in prefabricated buildings. In addition, 31 (36%) of the institutional buildings of music education are autonomous, while 54 (64%) of them are non-autonomous (shared). It was determined that most of the non-autonomous buildings of music education institutions maintain educational activities in the structures that are shared with an education program other than music, even with administrative units in some of the data. According to the data obtained in the research, 53 (62.4%) of the buildings of music education institutions were described as permanent buildings, while 32 (37.6%) of them were described as buildings that are used temporarily and planned to move due to the fact that they are deprived of the physical qualities required by music education. In the data obtained from the institutional buildings that are planned to move (*n, 32*), 53% of the participants stated that they did not know if the administrators managed any process for providing a building that is suitable for the purposes/requirements of music education.

48% of the participants gave negative answers to the question *"Were the building, space, or classrooms you use designed for the educational activities?"* It was determined that the number of buildings of music education institutions that were specifically designed and/or built only for the needs of music education is only 14 (16%). Under these circumstances, it can be said that the majority (84%) of the institutional buildings in Turkey where vocational music education activities are performed do not fit for this purpose.

The opinions of the participants on the floors and corridors that are used for department/program of music or conservatory programs in universities' institutional buildings, where music education is delivered, were divided into categorical groups and are given in Table 4 with their frequency numbers.

Table 4. *Spaces Used in Institutional Buildings where Music Education Programs are Conducted*

Space Used	Frequency	Space Used	Frequency	Space Used	Frequency
1 floor independent	5	2 floors independent, 2 corridors shared	1	2 floors, 1 corridor	1
2 floors independent	13	1 floor independent, 1 floor shared	1	4 corridors independent, 2 corridors shared	1
3 floors independent	8	3 floors independent, 1 floor shared	1	1 floor, 3 corridors	1
4 floors independent	2	Only 1 music classroom	1	4 corridors	1
5 floors	2	2 mezzanines	1	Dispersed	1
7 floors, 7 corridors	1	1 corridor	4	1 floor, 4 corridors	1
1 floor shared	2	1 corridor shared	3	First floor	1
2 floors shared	11	No building (shared faculty classrooms)	1	4 blocks independent	1
3 floors shared	4	2 corridors	2	1 building independent	4
4 floors shared	2	2 corridors, 1 mezzanine	1	No answer	6
2 floors independent, 1 floor shared	1				

Analyzing the data in Table 4, it can be said that universities' institutional buildings in Turkey where music education is conducted do not have a certain standard in terms of autonomy and used space, as well as they do not display a consistent image. 62% (*n, 53*) of the participants stated in their answers to another interview question in parallel with this question that they share the institutional buildings where they conduct music education with another department, program, or administrative unit that are not in the field of music. The other units that share the buildings with or use them in common with music departments are given in Table 5.

Table 5. *Other Units with which Music Departments Share Institutional Buildings*

Shared Unit	Frequency	Shared Unit	Frequency
Another Music Program	10	Turkish Folk Dances Department	1
Division of Art Education	6	Special Education Department	1
Departments of Sculpture, Painting, Ceramics, Photograph, and Graphic	4	Faculty of Communication	1
Physical Education Teaching Department	2	Distance Learning and Continuing Education Center	1
Department of Foreign Language Education	2	Library	1
Institutes	2	Department and Laboratory of Computer	1
Other Departments of Faculty of Education	2	Faculty of Agriculture	1
Department of Traditional Turkish Arts	2	Department of Basic Education	1
Sport Sciences Faculty	2	Faculty of Economics	1
Faculty of Divinity	2	Bureau of Student Selection and Placement Center (ÖSYM)	1
Department of Classroom Instruction Education	2	Department of Industrial Products	1
Secondary School and High School	2	Department of Architecture	1
College of Foreign Languages	1	Department of Cinema and Television	1
Department of Textile and Fashion Design	1	Programs where Common Compulsory Classes are conducted	1

62% (*n, 53*) of the participants stated that they share institutional buildings with different units other than the field of music education. The answers of the participants are categorized and listed in Table 5 based on their frequencies. Table 5 shows that most of the music education programs share universities' institutional buildings with departments, divisions, faculties, or administrative services units, which are not in the field of music. In addition, it was determined in some of the answers to the questionnaire that Conservatories, Music Departments of Faculties of Fine Arts, Performing Arts, Musicology Division, or Department of Music Education use institutional buildings in common (*f, 10*).

55 answers were received for the question *"If the building, space, or classrooms were constructed for a purpose other than music education, for what purpose were they designed?"* The categories of answers given to this question are given in Table 6.

Table 6. *Categories Related to Designing Purposes for Institutional Buildings where Music Teaching Activities are Conducted*

Construction Purpose for Building	Construction Purpose for Building	Construction Purpose for Building
Administrative Unit	Old Lodging Building	Medico Social Building
Library	Presidency and Administrative Unit Building	Any Classroom
Cafeteria	Laboratory and Technical Workshop	Instructor and Administrative Staff Building
Recreational Facility	College of Foreign Languages	Department of Mosque, Gallery, and Staff Affairs
Faculty of Education	Guest House	Classrooms of Faculty of Science and Letters
Dormitory	Economics	Department of Health, Culture, Sports
Meeting and Exhibition Hall	Medical Faculty, Additional Building	Faculty of Veterinary Medicine
Stadium and Sports Complex	Faculty of Sports Sciences	Classrooms of Other Departments
Prison	Military Purpose Building	Building of Fire Department

According to the categorical answers in Table 6, it is observed that the real purposes for constructing the institutional buildings where music-teaching activities are conducted are quite far from the requirements of music education field.

3.4. Acoustical Quality of Music Buildings

The answers given by the instructors to the question "*Do the building/classrooms that you use meet the expectations for acoustical needs required by music education?"* are represented in Table 7.

Table 7. *Opinions of Instructors on Acoustical Needs of Institutional Buildings*

Conformity to Expectations in Acoustical Terms	*f (85)*	100%
Yes, it meets our expectations	12	14
No, it does not meet our expectations	47	55
It partially meets our expectations	26	31

According to Table 7, only 14% of the instructors state that the institutional buildings where vocational music education is conducted meet the acoustical requirements. It can be interpreted based on this that the universities' institutional buildings that were built for other purposes and transferred to/converted into/allocated to music education programs were not

subjected to any result-oriented restoration process in terms of acoustic insulation and control.

Table 8 provides the opinions of the instructors on the acoustic insulation conditions of the individual musical instrument study rooms and piano study rooms in the institutional buildings of universities where vocational music education is conducted.

Table 8. *Acoustic Insulation Status of Individual Musical Instrument Study Rooms and Piano Study Rooms*

Acoustic Insulation Status of Musical Instrument Rooms	*f (85)*	100%
Acoustically Insulated	19	22
Acoustically Uninsulated	44	52
Partially Insulated	22	26
Acoustic Insulation Status of Piano Study Rooms		
Acoustically Insulated	18	21
Acoustically Uninsulated	45	53
Partially Insulated	22	26

According to Table 8, it can be sad that 22% of the individual musical instrument study rooms and 18% of the piano study rooms in the buildings of music education institutions are acoustically insulated. The instructors were asked about the type of the pianos used in the institutional buildings with regards to this sub-problem. Among the 75 participants who answered this question, 27 (36%) of them stated that they use acoustic type of piano, while 48 (64%) of them stated that they use acoustic and various digital piano types. While acoustic pianos are more suitable for the purposes of vocational music education, it is necessary to apply acoustical controls and acoustic insulations in the rooms where acoustic pianos are located, due to their sound volume. If this condition is not met, other rooms that are adjacent or close to acoustic piano rooms will be disturbed due to the sound spreading from there.

Table 9 represents the answers to the questions related to complaint levels of the students in the schools about the sound spreading from the individual musical instrument rooms and piano study rooms.

Table 9. *Complaint Levels of Students about the Sound Spreading from Individual Musical Instrument and Piano Study Rooms*

Complaint Levels of Students about the Sound Spreading from Individual Musical Instrument Rooms	*f (85)*	%100
Frequently	22	26
Occasionally	38	45
Never	25	29
Complaint Levels of Students about the Sound Spreading from Piano Rooms		
Frequently	20	24
Occasionally	33	39
Never	28	33
No Answer	4	5

Percentages of students' complaints about the sound spreading from the individual musical instrument study rooms and piano study rooms (Table 9) and the statistical values related to acoustic insulation status of these rooms (Table 8) show consistency with each other. This indicates that it is necessary to design piano or individual musical instrument study rooms in institutional buildings of universities where vocational music education is delivered, by taking measures of acoustical control and acoustic insulation.

The situation about whether there are classrooms and studying spaces that are specific to the field of music such as chamber music, orchestra rehearsal rooms, choir rehearsal rooms, mini auditoriums, and concert halls in institutional buildings and about acoustical convenience of such spaces are given in Table 10.

Table 10. *Classrooms Specific to the Field of Music in Institutional Buildings and Their Acoustical Convenience*

Space	Yes	No	Acoustically Convenient	Acoustically Non-Convenient	Partially Convenient/ Must be Improved
Chamber Music Rehearsal Room	40% (f, 34)	60% (f, 51)	20%	52%	28%
Orchestra Rehearsal Room	47% (f, 40)	53% (f, 45)	19%	53%	28%
Choir Rehearsal Room	48% (f, 41)	52% (f, 44)	23%	49%	28%
Concert Hall	49% (f, 42)	51% (f, 43)	33%	28%	39%
Mini Auditorium for Students	55% (f, 47)	45% (f, 38)			

According to the findings in Table 10, it was determined that most of the institutional buildings of universities where vocational music education is delivered do not have a chamber music rehearsal room (60%), and only 20% of the ones that have a chamber music rehearsal room are acoustically convenient. It was also determined that more than half of the institutional buildings of the universities where music education is delivered do not have an orchestra rehearsal room (53%) and a choir rehearsal room (52%), and only 19% (orchestra) and 23% (choir) of the ones that these rooms are acoustically convenient for musical studies. 45% of the institutions do not have a mini auditorium where students can perform their musical activities that they learn during the year. 51% of the institutional buildings do not have a concert hall where students and institutions' instructors, and any performer, musician, etc. to be invited to the universities can perform their concert activities. According to the instructors, 33% of the concert halls are acoustically convenient for musical activities.

The instructors were asked the questions, in what kind of space do they perform concert activities, what is the acoustical convenience situation of the concert space, do their institutions have a concert piano or not, in addition to the data expressed in Table 10. Referring to these interview questions, 77% of the instructors stated that they perform concert activities in a culture/congress center within the body of the university. 39% of the instructors stated that they consider the concert spaces acoustically convenient. It was stated that 84% of these spaces have a fixed piano for concert activities and these pianos are largely useful (70%) for concert activities.

Individual musical instrument classes are performed individually in the undergraduate programs that deliver vocational music education and these classes are generally performed in instructors' rooms but not performed in independent classrooms, both throughout the world and in Turkey. The instructors were also asked the question *"Do you think the rooms where the instructors in your institution conduct individual musical instrument and piano classes are acoustically convenient?"*, and 58% (*f, 49*) of the instructors answered this question as inconvenient, 26% (*f, 22*) as partially convenient, and 16% (*f, 14*) as convenient.

This indicates that the rooms of instructors serving at conservatories/music departments/programs, etc. in the universities where vocational music education programs are conducted also need acoustic insulation.

The instructors were asked the question *"Do you think the rooms where the instructors in your institution conduct individual musical instrument/piano classes are convenient in terms of physical qualities (size, illumination, spaciousness, ventilation, light, temperature, etc.)?"* and 41% of them answered *"Yes"*, 28% answered *"No"*, and 31% answered *"Partially"*.

At the end of the questionnaire form, the participants were asked to express their thoughts about the physical and acoustical sufficiency of the buildings where they conduct educational activities for the purposes of the music education program they implement. Answers of the participants to this question are grouped under three main categories as 'positive', 'partially positive', and 'negative'. The answers under 'positive' category are divided into subcategories as 'quite sufficient' and 'generally sufficient'. The answers in the main category of 'partially positive' are grouped under two subcategories as 'must be improved' and 'partially sufficient', while the answers in the 'negative' category are grouped under two subcategories as 'quite insufficient' and 'generally insufficient'. Table 11 shows the frequency numbers of the participant answers based on main categories and subcategories.

Table 11. *Instructors' Opinions on Physical and Acoustical Sufficiency of the Buildings where They Conduct Educational Activities*

Main Category	Subcategory	Frequency (77)
Positive	Quite sufficient	8
	Generally sufficient	2
Negative	Quite insufficient	32
	Generally insufficient	2
Partially Positive	Must be improved	28
	Partially sufficient	5

According to Table 11, frequency of the answers in positive category is 10, frequency of the answers in negative category is 34, and frequency of the answers in partially positive category is 33.

4. Results and Discussion

It is a positive situation that 95.3% of the institutional buildings of universities, where vocational music education is performed, are ferroconcrete or stone structure. Only four prefabricated buildings were detected in the research. Since prefabricated buildings lack of support elements to bear thick insulation materials and have thinner walls compared to stone or ferroconcrete buildings, they cause a high sound penetration. Therefore, it can be said that prefabricated buildings are the toughest type of buildings in terms of acoustic comfort and control in music education. In addition, it was concluded in the research that the institutional buildings of the universities in Turkey, where undergraduate level vocational music education is delivered, have large deficiencies in terms of both physical sufficiency and acoustic comfort.

Karahan (2016, p. 199) calculated the optimum numbers of study rooms/classes required for 160 students in a DMTE institutional building as a standard, based on the variables such as weekly course hours and academic programs. Accordingly, it is detected from the research

that there is a need for 21 individual musical instrument study rooms and 17 study rooms with piano in DMTE institutional buildings.

According to the results of the research, it seems that the institutional buildings where music education is delivered are quite below the standards set forth by Karahan (2016) in terms of classrooms such as individual study rooms, musical instrument study rooms with piano, classroom of applied music special teaching methods, choir rehearsal hall, orchestra rehearsal hall, and mini auditoriums. According to the results of the research, there is approximately one individual musical instrument study room per 100 students, among 12,987 students who receive music education in various undergraduate programs in Turkey. The number of musical instrument study rooms is 14 on average and the mean number of piano rooms is 15.6 on average in DMTEs. The number of musical instrument study rooms is 14.9 on average in Turkish music state conservatories. The number of musical instrument study rooms is 9.7 on average and the mean number of piano study rooms is only 7.7 in state conservatories. The number of musical instrument rooms is 9.8 on average, while the number of piano rooms is 7.7 on average in the types of FFAs. Out of 85 undergraduate institutional buildings oriented at music education, only 14 have 21 and more individual musical instrument study rooms. Excluding the institutional buildings of TMSCs thinking that they would not need piano rooms based on the targets of the music education program conducted there, only 17 of the remaining 75 undergraduate institutional buildings have 17 and more piano study rooms. Particularly the students of piano and musical instrument divisions in conservatories will have more hours to study individual musical instruments compared to the students of other music education programs. This requires the number of individual musical instrument study rooms to be at a sufficient rate in conservatories. Notwithstanding, the number of individual musical instrument rooms in conservatory institutional buildings are quite low, although TMSC data were not included in the average values.

It was determined that most of the institutional buildings of the universities where educational activities in the field of music are conducted are not autonomous buildings. It is very difficult to perform a healthy, qualified, and eligible music education in only one story of a building, in one or two corridors on the ground floor, or in several stories shared with other departments or administrative units. The fact that it is very difficult to increase the numbers of individual study rooms in programs with high number of students in such spaces reflects also on the answers of the participants. In addition, it was determined that the number of institutional buildings of music education, which were designed and constructed specifically for only the needs of music education, among the institutional buildings of the universities, is only 14 (16%). Making a building that was constructed for other purposes suitable for music education is quite costly due to both physical and acoustical reasons. It was determined in the research that small auditoriums, rehearsal rooms for an orchestra ensemble of 30 to 60 persons, and choir rooms could not be created in buildings constructed for other purposes or in spaces such as mezzanines.

It was determined in the research that the buildings where music education is delivered have important deficiencies in terms of acoustic comfort. Only 14% of the instructors stated that the institutional buildings where vocational music education is performed meet acoustical requirements. Similarly; individual musical instrument study rooms, study rooms with piano, concert halls, choir study rooms, chamber music and orchestra rehearsal rooms were mostly found to be acoustically ineligible or partially eligible. It is interesting that more than 50% of the institutional buildings of universities where educational activities are performed in the field of music do not have any orchestra-chamber music and choir rehearsal rooms.

In the undergraduate programs in which vocational music education is delivered, musical instrument classes are conducted individually and are not generally performed in independent classrooms both throughout the world and in Turkey, but are performed in instructors' rooms. It was stated in the opinions of the participants that 58% of instructors' rooms in conservatories, music departments/programs, etc. at the universities, where vocational music education programs are performed, are acoustically inconvenient.

According to the categorical answers in Table 6, it is seen that the real purposes for constructing the institutional buildings, where music-teaching activities are performed, are quite far from the field requirements of music education. There are many projects around the world, which were constructed for a different purpose and renovated for a new purpose. However, such restoration projects related to the field of music bring in a costly process due to the reasons such as acoustical control and insulation. Besides, reconstructing classroom and activity spaces such as individual study rooms, mini auditoriums, orchestra rehearsal rooms for 30-60 persons, choir rehearsal rooms, and concert halls needed for concert activities, which are required by vocational music education, in buildings with other prototypes, will cause extra cost factors such as dividing or reuniting rooms.

Academic success will be adversely affected if the types of buildings where vocational music education is delivered are not acoustically controlled. If musical sounds emitted from the source of sound do not reach the performing individual properly, it will cause important musical problems such as bad intonation, rhythmic mistakes, and synchronization mistakes in collective performing and singing activities. Individuals who cannot hear their own playing or singing with an ideal acoustic comfort will try to take their musical skills under control in a wrong or inaccurate atmosphere, which will adversely affect academic success. Moreover, being in sound environments with too much echo will have physical and psychological reflections on individuals, such as mental fatigue, headache, and stress. The fact that concert halls and auditoriums are not under acoustic control will cause the audience to think as if the musical activities, which are prepared through a long preparation process and many efforts, are prepared defectively, erroneously, or carelessly in terms of quality.

In line with all these results, it is seen that the institutional buildings of the universities in Turkey where vocational music education is delivered have deficiencies both physically and in terms of acoustic control and comfort. Apparently, some of these deficiencies can be solved by means of improvements such as acoustic control and insulation in the same building, while some of them need solutions that are more radical. For instance, it is considered an obligation to move the institutional buildings that do not have any individual musical instrument and piano study room, concert hall, choir and orchestra study spaces to more eligible buildings or to construct a new building for the needs of music education, in terms of the quality of education to be delivered.

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5. Recommendations

In this research, the situations in which the institutional buildings where vocational music education is delivered are shared with another division, department, faculty, institute, or administrative unit were determined. However, the research population did not include the situation whether the academic staff, students, and administrative staff, who share the buildings with the music department in these cases are disturbed by the sound spreading from the music departments or not. It is recommended to research also the acoustic comfort of individuals who share their buildings with music departments in a similar study. Nevertheless, it is recommended not to increase student quota, and not to open a new undergraduate or graduate program for vocational music education under the body of the same university in shared building types where acoustical precautions and enough number of music classrooms cannot be ensured physically, without moving to an autonomous building or without fulfilling the optimum conditions.

It is recommended that YÖK fulfill the conditions for opening an undergraduate program in a music program/department/faculty or conservatory, which has recently been opened but not started to admit students yet for various reasons or which is planned to open, by taking into consideration the findings in this research and similar research and by setting forth the minimum criteria in line with the relevant data. YÖK should take decisions that will push university administrations, who want to start music education activities with temporary space solutions without fulfilling these criteria, to ensure minimum criteria. By this way, no financial source would be spent on temporary spaces for acoustical and educational solutions, as well as the educational environments would be ensured in accordance with the "Regulation on Higher Education Quality Assurance", which has been emphasized by YÖK particularly for the last four years.

Protection of buildings against noise in Turkey are set forth through various parameters under certain standards in a regulation published in the Official Gazette by the Ministry of Environment and Urbanization (T.C. Resmî Gazete, 2017). 'Threshold values for acoustical performance of buildings" that are given in Section 4 and 'threshold indoor noise values' that are given in Article 12 of the regulation should be gauged for the institutional buildings where music education is delivered and their compatibility to the directive should be checked. When it is considered to open a new music undergraduate program in a non-autonomous building, the sections 'Sound Insulation Application Process and Insulation Rules' and 'Insulation Design, Calculation, and Modelling Methods' should be referred to. It is recommended that special cases such as stationary wave, the disturbance due to distinguishability/audibility of room resonances, etc. that can occur in such special purpose structures be researched by the experts from the field of architectural acoustics in detail and then, a model be created on the acoustics design of the buildings where music education is delivered.

One of the most important factors of art education and fine arts is aesthetics. Music education is an important branch of art education. It is recommended that the spaces where art education is conducted be designed with an aesthetical architecture and from an aesthetical perspective that is close to their educational contents, and institutional buildings of art education be planned as structures that attract attention aesthetically in the campuses and that add surplus value to the university.

Data on the physical and acoustical properties of the institutional buildings of the universities where vocational music education is delivered were limited to the opinions of the instructors in this research. It is recommended to conduct similar research by receiving also

the opinions of students, who receive vocational music education, on physical and acoustical properties of the institutional buildings of universities.

Obtaining new data as a result of acoustic measurements to be performed by the experts in the fields such as architectural acoustics, acoustic measurement, and acoustic control in the universities' institutional buildings in Turkey, where music education is delivered, concert halls, and rehearsal rooms will provide important data for the institutional buildings that are planned to construct from now on. It is recommended to increase the research in this field.

There are institutional buildings of music education that have favorable properties in Turkey, which were designed only for music education, and can be a model in terms of both physical conditions and acoustic comfort in the data of this research. It is recommended that these buildings and their indoor space designs set an example particularly for the institutional buildings that have just been opened or will be opened or that are planned to move due to insufficiencies.

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