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A RESEARCH FOCUSED ON IMPROVING VOCALISATION LEVEL ON VIOLIN EDUCATION

KEMAN EĞİTİMİNDE SESLENDİRME DÜZEYLERİNİ GELİŞTİRMEYE YÖNELİK BİR ÇALIŞMA ÖRNEĞİ

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ABSTRACT

The research aimed to improve vocalisation levels of music teacher's candidates on performance works for violin education moving from difficulties faced by prospective teachers. At the same time, it was aimed to provide new perspectives to violin educators. Study group was composed of six 3rd grade students studying violin education in a State University. The study group that determined by the random method was composed of six violin students totaling three experiments and three control groups. An experimental model with pre- and post – test control groups was used in the study. The obtained data were evaluated on the performance scale and analyzed by Man Whitney U test and Independent samples t Test. Data were statistically evaluated and the results showed that difference between pre-and post-test scores of experimental and control groups was in favour of experimental group. It can be argued that vocalisation levels have a significant effect on increasing the performance related to students' musical and technical skills, also the research makes it clear that performance works is one of the major factor of that.

Keywords: Music education, Instrument education, Violin education, Violin study sample

ÖZ

Araştırmada, keman eğitiminde kullanılan eserlerin seslendirilmesinde, öğretmen adaylarının karşılaştıkları güçlüklerden hareketle, esere yönelik hazırlanan alıştırmalarla seslendirme düzeylerinin geliştirmesi amaçlanmıştır. Aynı zamanda keman eğitimcilerine yeni bakış açıları sağlamak hedeflenmiştir. Çalışma grubunu, 2016-2017 eğitim öğretim yılında bir devlet üniversitesinin eğitim fakültesi müzik öğretmenliği programında keman eğitimi alan üçüncü sınıf öğrencileri oluşturmaktadır. Random yöntemi ile belirlenen çalışma grubu, üç deney ve üç kontrol grubu olmak üzere toplam altı keman öğrencisinden oluşturulmuştur. Araştırmada ön-test son-test kontrol gruplu deneysel model kullanılmıştır. Elde edilen veriler performans ölçeğinde değerlendirilip Man Whitney U testi ve Independent Samples t Test ile analiz edilmiştir. Bulgularda, deney grubunun ön test-son test puanları arasındaki farkın son test puanlarının lehine olduğu görülürken, kontrol grubunun ön test-son test puanları arasındaki farkların istatistiksel açıdan anlamsız olduğu görülmüştür. Elde edilen sonuçlara göre, keman eğitiminde seslendirme düzeylerini geliştirmeye yönelik hazırlanan çalışma örneğinin, deney grubundaki öğrencilerin müzikal ve teknik becerilerine ilişkin performanslarını arttırmada önemli bir etkisinin olduğu söylenebilir.

Anahtar sözcükler: Müzik Eğitimi, Çalgı Eğitimi, Keman eğitimi, Keman Çalışma Örneği

1. INTRODUCTION

1.1. Instrument Education and Its Processes

Instrument education is a part of music education system and also one of the most important components to improve of professional development process of music teacher's candidates. Demirci (2013) defined IE to be a process where individuals come together and shape their mental, physical and musical characteristics (p.118). According to Uçan (1980), IE is a process where individuals and their groups can cause deliberate changes in their own psychomotor, cognitive and affective behaviours through instrument teaching and their own life and gain new behaviours with such features.

Instrument education is a total of the processes implemented to develop individual positive behaviours with technical and aesthetical qualities in order to play instrument and produce voice. Throughout these processes individuals gain and improve skills (Derican, 2008,p.1).

Instrument education is the combination of methods applied to be able to play an instrument. Main objectives in individually performed Instrument education are to teach students how to play their instruments in an

accurate technique and adjust working time efficiently, help them percept music cultures in possible best way and increase musical skills (Parasız, 2009, p.4). Instrument education is the basic and most important requirement for a music teacher candidate. It is an inevitable obligation for the candidates to meet this requirement, give importance to it, employ every type of possibility to make the largest advancement in playing instrument and work for long hours (Albuz, 2002, p. 8).

Candidate music teachers can learn to be musician through knowledge and skills they will gain on his/her instrument, develop their skills through positive developments in their instrument and improve their self-confidence by making communication with their environment. Such improvements can contribute to their psychological well-being at the same time (Uslu, 1996).

The innovative methods adopted to solve the problems experienced with in the traditional teaching approaches will bring different perspectives in the way of teaching in accordance with the target behaviours (Uludağ, 2015).

Regardless of the type of instrument, an applicable Instrument education program and model based on concrete materials by experts can cause positive effects for individuals to gain desired behaviour and increase their performance. Such a condition may show its positive effect on not only individual's learning process of instrument playing but also on their programed and disciplined working challenges by improving their auditory, commentary and musical skills (Demirci, 2013, 118).

Individual instrument education subjects embedded in music education program cover several instruments and can contribute significantly to music teacher's candidate skills for vocalising and commenting. Violin is among such instruments. A well prepared teaching method in addition to positive communication between teacher and student can play effective role for the education to reach targeted goals in violin education.

Violin has become a very important education field in the body of the institutions giving vocational music education since its use can be mono – poly-phonic, traditional – classical – modern, national – universal, sole - in pairs – orchestral and it can have very diverse literature in all cultures (Yağışan, 2002, p. 3). When technically evaluated violin education starts with accurate posture and position of human body and followed by holding violin bow accurately and positioning arm, wrist, hand and fingers in the right places (Parasız, 2009, p. 6).

When the compare of contributions of six forefront violin pedagogue of 20th century, Leopold Auer, Carl Flesch, Ivon Galamian, Paoul Rolland, Kato Havas and Shinichi Suzuki, it can be refer three general violin teaching techniques firstly posture and holding violin, secondly left hand and arm technique and the last right hand and arm techniques (Nelson, 1994).

Schleuter (1997) stated that each instrument requires its own playing techniques and skills for performing these techniques, however; in general, instrument playing techniques involve posture, holding, employing the bow, hand position, breathing, use of tongue, voice quality, position of wrist, arm and fingers, intonation and vibrato (p. 27). Such techniques taking place in instrument education follow an order beginning from easy to hard depending on the student levels and technical difficulties. It is not advisable to teach detailed techniques without showing and grasping basic behaviours and playing techniques. Most frequently used techniques in violin education in left hand are said to be positioning, dual sounds, ornaments (hits, mordant, grupettos, trills), left hand pizzicato, flageolet, glissando, vibrato while for right hand they may be holding the bow, upper half, lower half, use of middle and whole bow, bow press, bow speed, voice colour and characters and bow techniques (detach, legato, staccato, spiccato, martele, fouette, cole, sautille, ricochet).

Determination of a part of performance which the music teacher's candidates make commonly mistakes or have difficulties is very much important. The correction of mistakes through etudes and supporting practices contributes vocalization levels positively.

1.2. Playing Techniques Located in Work

A violinist should train his/her fingers, hands and arms on all wires of the instrument (Nelson, 1994,p.35). Such a process involves right and left hand techniques, which should be mentioned here. Vibrato, which is an important and inevitable technique in the formation of musicality in violin, is performed through fluxing and vibration movements of elbow, wrist and fingers. According to Say (2009), vibrato is a vibration (fluxing) technique applied by players in vocal music, wind instruments, wired and stringed instruments with the aim of enriching, softening and intensifying voice and waving slightly and intensifying voice ton (p. 562). While upper arm is bending down the violin in vibrato, front part of the arm is expected to create a continuous

movement or at least combine two movements. The first movement is a kind of vibration in the direction of bridge while the second is a slight bend in elbow (Lee, 1999,p.31). Vibrato is the operation of re-vibrating and re-waving voices coming out from wires through the movements in elbow, wrist and fingers of left hand. As the result of this operation, voice gains a characteristic of having vibrato (Uçan and Günay, 1975).

Flageolet is whistling from the violin. It can be obtained from two different ways: 1) With the finger touch, 2) Pressing one finger and touching the other finger (Büyükaksoy, 1997, p.17). Flageolet technique can cause whistle like voices by touching on wire slightly with finger.

Positions have a very important place in left hand techniques. Buckles (2004) stated that positions are one of the techniques composers use deliberately to show their instrument potentials and violinist needs to improve his/her technique to the most advanced level in order to play successfully.

In all stringed instruments, use of bow conveniently to its technique is needed to produce quality voice. Strange and Strange classified the bow according to its two main functions; location point of the bow and its movement on wires and its use form. Dividing these techniques into two categories is desired since it can increase the flexibility of the use of bow (cited by Buckles, 2003, p. 31). Detache and legato techniques having an important place in right hand techniques are vital part of violin education and virtuosity. Kexi (1993) stated that there is a little forearm movement in the lower but more in the middle and upper part of bow while very little backarm movement is seen in the same regions of the bow, however; in some cases, forearm and back arm can be used at the same time.

Portato is playing violin without disconnecting bow with wires but this does not mean linked plying (Çalışır, 2004). Staccato is to produce batched voice in both pulling and pushing directions without disconnecting bow with wires. According to Büyükaksoy (1997), bow is made ready after each rub and pressure is lost after hearing accent.

Fouette technique comes from accented detach. However, accent is obtained in this technique by hitting wire with an abrupt energy and a quick movement after pulling bow out of wire. In Colle technique, bow is dropped in wires and as soon as it touches the wires they are pressed in a soft but sharp form. Through this press, voice is stressed and bow is slightly removed when the voice is heard and the bow is made ready for the next rub (Büyükaksoy, 1997).

It is very difficult to produce clear and desired quality voice in violin due to its technical structure and therefore, intonation is most frequently encountered problem. Nunez (2002) stated that there is no model in which teacher is imitated to develop intonation in any of the studies on auditory elements and categorised the factors affecting intonation into 3 groups. These factors may be environmental conditions (room temperature, humidity etc.), technical problems in instrument (such as higher touch compared to bridge and wire intervals out of standard may cause intonation problems) and differences in students' perception of voice.

1.3. Performance in Instrument Education

Exercises and etudes are the parts written to practise technical behaviours in the work to be performed distinctly and better. Randel (2003) stated that exercises and etudes are the parts designed for technical development by concentrating on effort in expertise away from certain difficulties and only one etude is generally focused on only one technical problem.

In the performance of the works used in individual instrument education lessons placed in music education programs, it may be effective on increasing the yield and performance of instrument education to determine the parts where serious difficulties are experienced and to form preparative works for these parts. It was found in a dissertation (Karahan, 2008) that students in experimental group working on preparation etude for their performance at exploring, practising and playing stages of Turkish music works are more successful than those in the control group. Another dissertation (Parasız, 2009) determined also that experimental students working with exercises prepared to perform contemporary Turkish music works are more successful those in control group. A study (Demirci, 2013) implied that a working model prepared for modal vocalisation exhibited significant effect on increasing performance of students experimental group related to their musical and technical skills. It was highlighted in a master thesis (Büyükkayıkçı, 2004) that it is a requirement that students should be aware and conscious about that how they can use time effectively and efficiently while the teachers of stringed instruments should guide students about how they can work with their instrument and can learn to play it.

It was aimed in the present study, to develop vocalisation levels of students through exercises prepared for music teacher's candidates to perform the selected works in a shorter time and more accurately by taking the difficulties in the vocalisation of works used in violin education into consideration.

2. METHOD

At the study, an experimental study was set up based on field survey to measure the effective factors on vocalisation levels of music teacher's candidates through preparative exercises which can provide possibilities for the vocalisation of works used in violin education in a shorter time and more accurately.

2.1. Model of the Study

An experimental design with pre- and post – test control group was used to obtain data in the study. Howitt (1997) stated that pre- and post – test control group experimental design is a commonly used mixed test design, participants are measured before and after experimental operation associated with dependent variable in this relational design. Same participants can be measured twice for dependent variable. However, since the measurement of experimental and control groups composed of different subjects can be compared, such a design can be accepted to be not relational. From this point of view, pre- and post – test control group experimental design is a mixed design (Büyüköztürk, 2007).

2.2. Research Process

A research exercises was developed by researcher and it has been subjected to research group for two weeks. Control group's students has been trained and observed in an ordinary teaching style during two weeks. And then, a performance evaluation scale was practiced to both research and control groups for evaluation of their musical technical skills. Performance evaluation scale was used to measure data as it was in the dissertation of Parasız (2009). Cam recording was realized by volunteering rules during pre and post test periods and those recordings was evaluated by four experts. Every expert made his/her evaluation as separated and individually.

Table 2.1. Experimental process design

Groups	Pre- test	Training Phase	Post-test
Proving Group	The first examination of the playing performed	Sample Work	The final examination of the playing performed
Control Group	The first examination of the playing performed	Standard Training	The final examination of the playing performed

2.3. Experimental Group

Experimental group is composed of randomly selected six students (three for control and experimental group) attending at 3rd grade individual instrument playing education at a State University, Education Faculty, Music Education Department.

In the scope of the experiment, students in both experimental and control groups were given a one – week period at the beginning of the study to practise the predetermined work. A pre-test was applied based on the performance assessment scale at the end of the time period given to the students. No statistically significant difference was found between the groups and the groups were found to be equal to each other according to pre-test results. After the pre-test, study sample prepared by the researcher was applied to experimental group for two weeks while control group was allowed to make their routine studies in the same time period on the condition that researcher observed them every week. At the end of the process, performance assessment scale was applied as post – test to experimental and control groups in order to measure their musical and technical skills. A camera record was taken in pre – and post – test application process from the works of voluntary students and these records were evaluated by the researcher and three experts individually and independently based on the scale (Table 2.3.1).

Table 2.3.1. Kolmogorov-Smirnov Normality Test Results for Data Range

Pre Test-Post Test	Criterions	Kolmogorov-Smirnov		
		Statistics	sd	p
Pre Test		,160	24	0,115
Post Test		,195	24	0,019

The juries' marks for pre and posttest are shown as (p) value on the table. According to significance level and confidence bounds, it can understand that (p) values was bigger than 0.05 on pretest and smaller than 0.05 on

posttest and also there wasn't any statistical difference between pretest's means but it was a difference in posttest. The group scores were normal in pretest but it wasn't normal in posttest.

For statistical analyzes, the parametric tests are used if the groups are normally distributed, but the non-parametric tests are used if the groups are not normally distributed. Considering the model and sub-objectives of the research, the normality test was tested; for independent sample groups, independent sample t test was used as a parametric test and Mann-Whitney U Test was used as a non-parametric test. For independent sample groups, the pre-test and post-test averages of study groups were compared by parametric and non-parametric tests and also it was examined any difference between the pre-test and post-test. SPSS Statistical package program was used for analyzing the data. The numerical performance data obtained of experimental and control groups were compared and statistical results were obtained for to the research through this software. As a result of the tests, the values were tabled and commented on them.

2.4. Collection and Analysis of Data

At the descriptive stage of the study, frequency percentage of the voices in the sample work, percentage of duration values, total time and total frequency were determined using a software, Alpharabius, developed by Can. Alpharabius is an interface which can turn raw data into database files and work through SQL codes (Müezzinoğlu, 2004, s. 9). In this scope, notation of the sample work was transformed into XML file using Finale 2008 and then required database was obtained for the study by analysing the transformed file in Alpharabius software through SQL commands. These data were also further processed to draw graphics including use frequency and duration values in MS Excel software.

2.5. Results of Vocal Range Misuse and Percentage of Voice Use in the Work

Data related to vocal range misuse to be used in the exercises of sample work analysed through Alpharabius software are given below (Figure. 2.5.1).

	Sus	A3	B3	C4	Cd4	D4	Dd4	E4	Ed4	F4	Fd4	G4	Gd4	A4	Bb4	B4	C5	Cd5	D5	Dd5	E5	F5	Fd5	G5	Gd5	A5	Bb5	B5	C6	D6	E6	
Sus	13																				1											
A3	1		3											1																		
B3		2	1	5	2			1																								
C4		2	4	1		1																										
Cd4						3																										
D4			2	2	1	1		1																								
Dd4								1																								
E4						1	1	2		4		3							1													
Ed4											1																					
F4								3		1	1			1																		
Fd4									1		1	4																				
G4			1					2			2	2				2																
Gd4								1						1		1																
A4											1				1	3	1				1					1						
Bb4										1																						
B4													1	2			6				8							1				
C5		1												1		7	1		1		2											
Cd5																			1													
D5														1			4		1													
Dd5																					1											
E5								1					2	1		5	1		2	1		1	2		2			2				
F5																		1			2	1										
Fd5																							1		3							
G5																						1										
Gd5																					1	1	1		1	8		2				
A5																								1	7	2	1	5	2			
Bb5																					1					1	1		1			
B5																					3				1	6		2	5		1	
C6																											2	6	2	2		
D6																													2			
E6						1																									1	
toplam	1	5	11	8	3	7	1	12	1	6	6	9	3	8	1	18	13	1	6	1	20	4	4	1	14	18	4	18	12	2	2	220

Figure 2.5.1 Vocal range misuse in the sample work

As can be seen from Figure 2, most frequent vocal misuses in the sample work are B4-E5 (8 times), C5-B4 (7 times), A5-Gd5 (7 times), B4-C5 (6 times), B5-A5 (6 times), C6-B5 (6 times), B5-C6 (6 times), E5-B4 (5 times), B3-C4 (5 times), D5-C5 (4 times), Fd4-G4 (4 times), E4-F4 (4 times) and C4-B3 (4 times).

In this respect, it is important for the study to achieve its objective to give more place to most frequently misused vocal ranges in the exercises to be prepared.

Table 2.5.1. Percentage Use of Sounds.

Pitch	Period	Duration	Percentage
E5	20	1488	9,1324201
B4	18	1056	8,2191781
A5	18	1248	8,2191781
B5	18	1440	8,2191781
Gd5	14	864	6,3926941
C5	13	768	5,9360731
E4	12	1152	5,4794521
C6	12	1152	5,4794521
B3	11	624	5,0228311
G4	9	576	4,109589
C4	8	672	3,652968
A4	8	528	3,652968
D4	7	672	3,196347
F4	6	432	2,739726
Fd4	6	288	2,739726

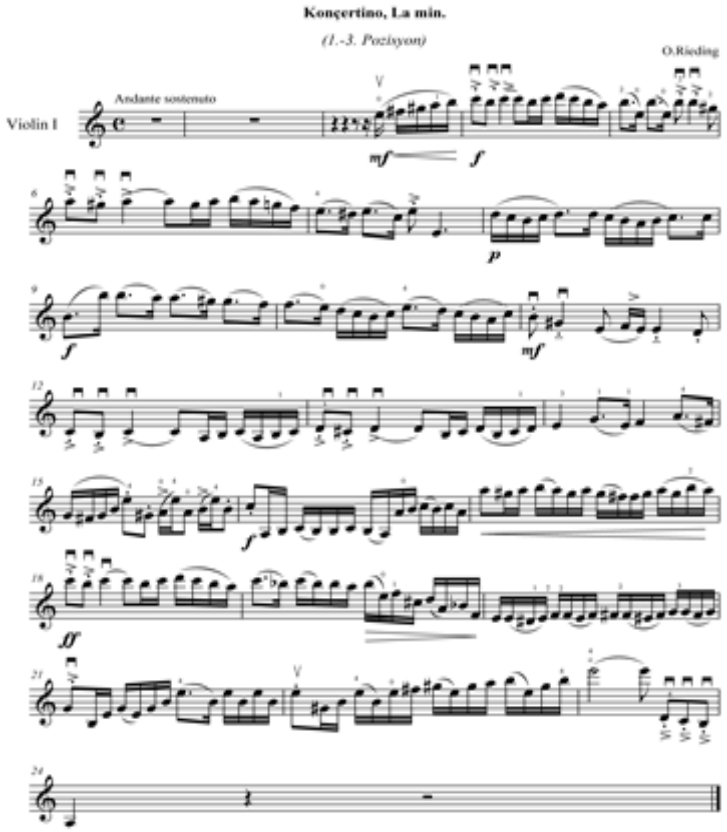
Table 2.5.2. Percentage Use of Voices

Pitch	Period	Duration	Percentage
D5	6	384	2,739726
A3	5	384	2,283105
F5	4	288	1,826484
Fd5	4	192	1,826484
Bb5	4	192	1,826484
Cd4	3	192	1,369863
Gd4	3	336	1,369863
D6	2	96	0,913242
E6	2	480	0,913242
Dd4	1	48	0,456621
Ed4	1	48	0,456621
Bb4	1	48	0,456621
Cd5	1	48	0,456621
Dd5	1	48	0,456621
G5	1	48	0,456621

It can be understood from Table 2.5.1and figure 2.5.1 that in the sample work, vocal ranges of E5, B4, A5 and B5 have higher duration and use percentages than the other ranges used in the sample work.

By considering the results in the table and the figure above it is possible to state that the determination of the percentage rates of voices in both duration and use frequency is of leading role to create transverse voices in the preparation of the exercises.

2.6. Sample Work for Research



It can be seen when the sample work is evaluated in the respect of violin playing techniques that right hand techniques of legato, portato, martele, staccato and left hand techniques of flageolet were used in its performance. Positions like I, II and III and nuance terms such as fortissimo, forte, mezzo forte, crescendo, decrescendo, molto ritardando were used.

In this respect, Andante Sostenuto part of La Minör Konçertino by O. Rieding was determined to be the sample work to be used in the experimental study and analysed in terms of playing techniques. Methods taking place in violin literature were used in the exercises prepared in order to ease the practice of the techniques placed in the work. Some of the literature used to construct literature base may be O. Sevcik (ops.1, No:1-2-3-6), Wohlfahrt (p. 1) for the efficient and desired level of the use of left hand fingers and the development of bow

practices; Uçan (2005) for Flageolet practices, Uçan (2005) and Seybold (ops.182,p.13) for Staccato practices, Uçan (2005, p.91) for Martele practices, Schradieck (1923, p.1) and Dalaysel (1987, p.86) for series practices, Ribeiro (1934, p.15,25,26,27) for series, tone and position practices, Sitt, (op.32, no:41,44, p.2,5), Can (2012, p.16,39), Kreutzer (No:1, p.2) and Schradieck (1923, p.1) for the practices of the exercises related to open and closed position and Mazas (Op.36, no:2, p.6) for stress, portato and staccato playing.

2.7. Sample Work

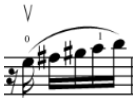
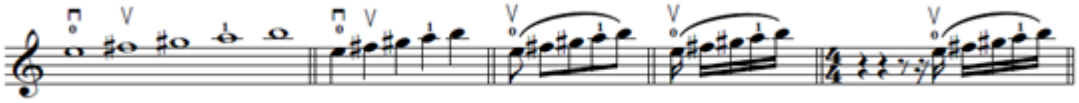


Figure: 1.



Exercise: 1.a.

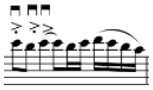
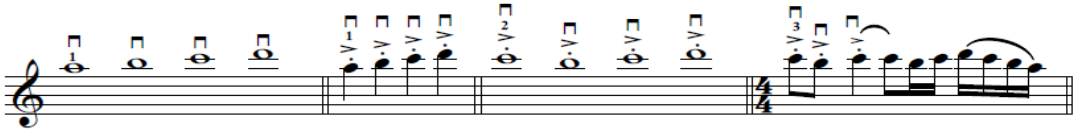


Figure: 2.



Exercise: 2.a.

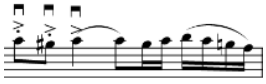
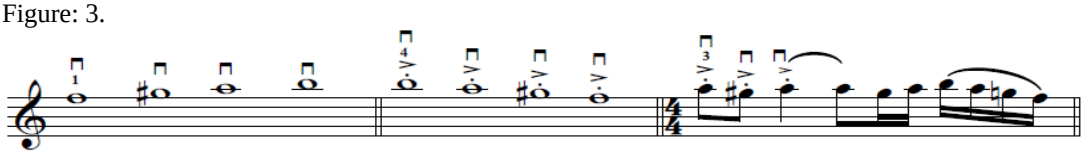


Figure: 3.



Exercise: 3.a.

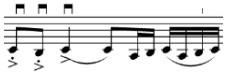
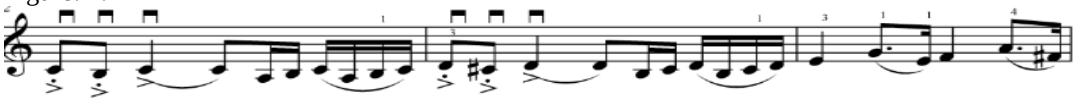


Figure: 4.



Exercise: 4.a.

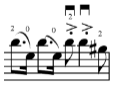
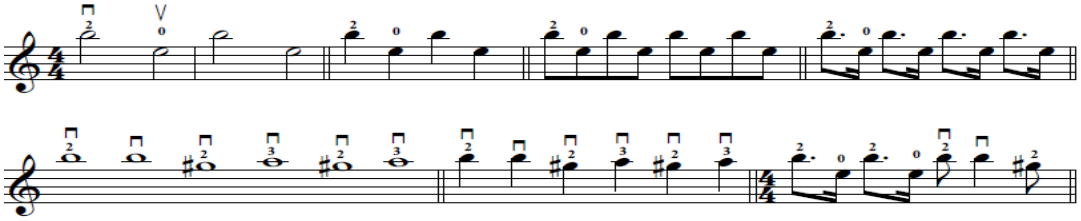
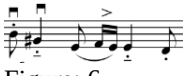


Figure: 5.



Exercise 5.a.



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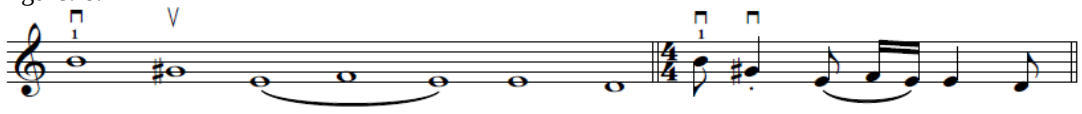

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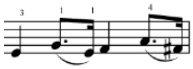

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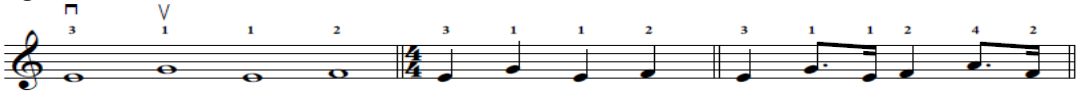

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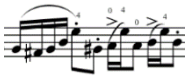

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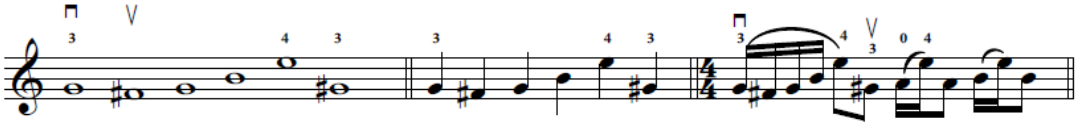

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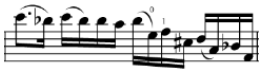

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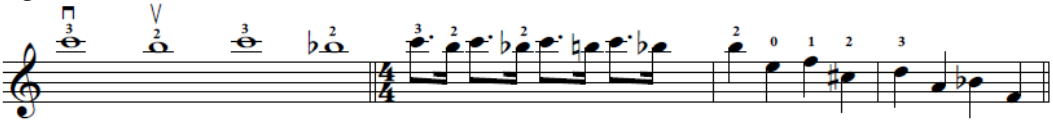

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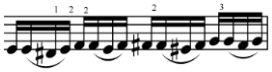

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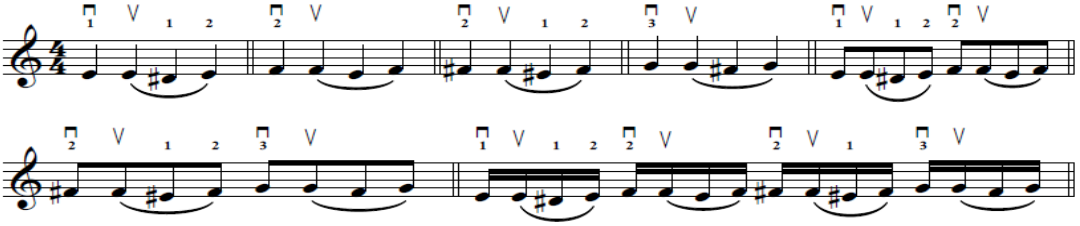

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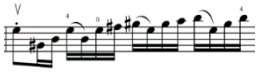

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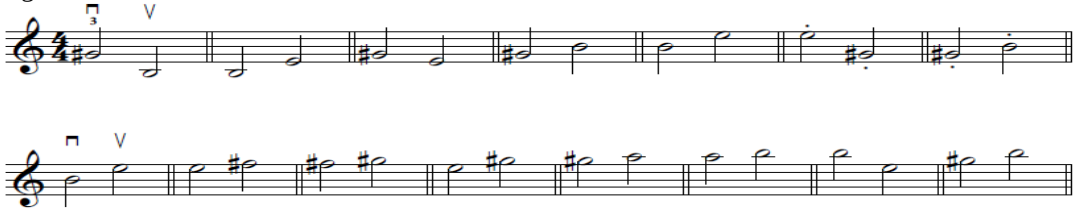

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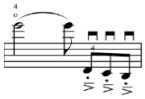

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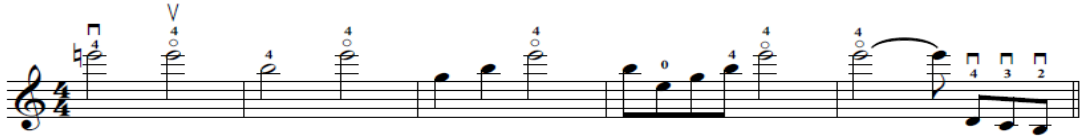

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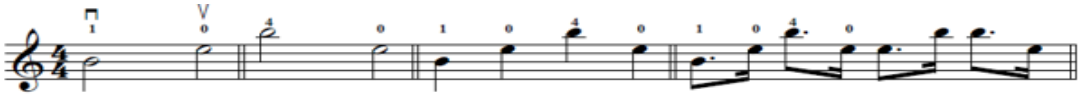

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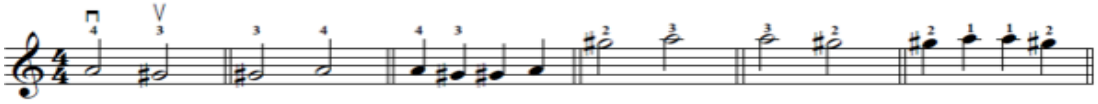

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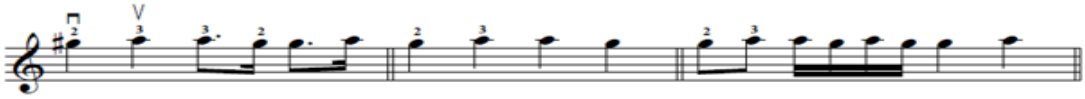

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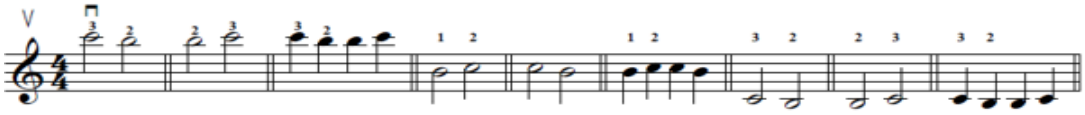

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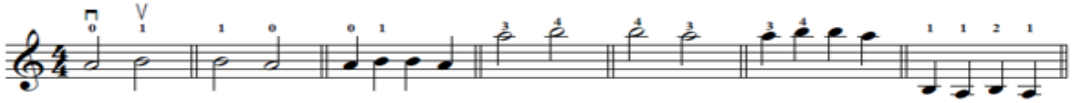

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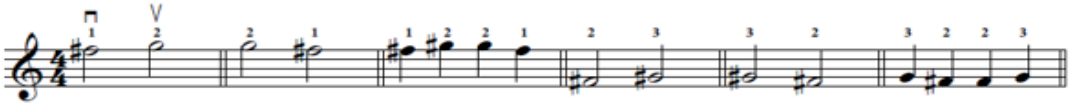

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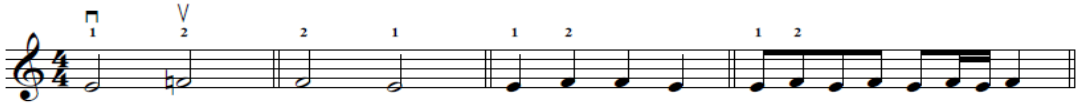

Exercise: 19.

3. FINDINGS

Table 3.1. Independent Sample t Test Results for Experiment and Control Group

Groups Pre-Test	Variables (Crterions)	N	$\bar{x}$	SS	sd	t	p
Experiment Pre-Test	Total benchmark score	3*4 Assessors (12)	27,08	4,981	22	-1.280	0.214
Control Pre-Test	Total benchmark scores	3*4 Assessors (12)	30,42	7,525			

When the total benchmark pre-test averages for the experiment and control group are examined from the Table 3.1, it is seen that the arithmetic mean value of the experimental group is X = 27.08 and the arithmetic mean value of the control group is X = 30.42; and there is no statistically significant difference between the pre-test results of experimental and the control groups on the basis of the total criteria. According to the results of the t-test conducted to determine whether the mean scores of the pre-test results of the total criterion differ, there is no significant difference between the difference scores' averages of the test group and the control group [t(22) = -1.280, p = 0.214>0.05]. In another word, there weren't any skills differences of the students between the experimental and control groups before the total criteria score training in the pre-test.

Table 3.2. Mann-Whitney U Test Results for Experiment and Control Group

Groups Post-Test	Variables (Crterions)	n	Rank Average	Row. Total	U	p
Experiment Pre-Test	Total benchmark score	3*4 Assessors (12)	18,50	222,00	0.000	0.000*
Control Pre-Test	Total benchmark score	3*4 Assessors (12)	6,50	78,00		

When the total benchmark post-test averages for the experiment and control group are examined from the Table 3.2, it is seen that the arithmetic mean value of the experimental group is X = 18.50 and the arithmetic

mean value of the control group is X = 6.50; and there is a statistically significant difference between the post-test results of experimental and the control groups on the basis of the total criteria. According to the results of the z-test conducted to determine whether the mean scores of the post-test results of the total criterion differ, there is a significant difference between the difference scores' averages of the test group and the control group [U= 0.000, p=0.000<0.05]. In another word, there are significant skill differences of the students between the experimental and control groups after the total criteria score training in the pre-test.

4. DISCUSSION

Undergraduate music education in Turkey is carried out by music education department of education faculties. This program's students take many lessons both instrument training and teaching profession.

As the research subject violin education has great importance for instrument training, and it arranges considering student's vocalization and experience levels for their four year programmed educations. It can't be ignored that it is difficult to fulfil the 4 years' content of instrument training. But, the aim of the music education departments is not educating students as virtuoso, they aimed to educate student as good teacher who has adequate instrument player and also knowledgeable and skillful for teaching. (Cilden, 2006) remarked that, this process consists of teacher, student and teaching program and these three key factors affect quality in a positive way (p. 544). It is not enough only Teacher scheduling but also needs student adapting to this process from the beginning.

The above-mentioned basic elements of violin education processes in music education institutions directly affect the level of the students' vocalization. It is a requirement to analyze of musical and technical structures given to student very well before the work. It is very important to determine the difficulty parts to vocalize and to study it in terms of instrument education. Instrument teachers generally carry out studies in the same direction to the works during the course. But despite that expected performance is often not achieved. From this point of view, it is important to improve the level of vocalization by writing exercises (Taking into account the challenges students face) in addition to the etudes which are prepared in consideration of the level of students' vocalization in order to support them.

This problem, which constitutes the starting point of the study, has been addressed in similar studies by other specialists. In addition to the existing etudes on piano students' works, Karahan (2008) also applied their own written studies and the experimental group achieved more successful results on their students. The results of the research support this study in terms of the method applied. In another study by applying the same method, Demirci (2013) prepared exercises for a song to experimental group students during the cello education process, and the results exposed that experimental group was more successful than the control group. Similarly, Parasız (2009) concluded that the experimental group students using the exercises prepared in the doctoral thesis were more successful than the control group students. All of these studies, both for preparing exercises and for obtaining positive results using the same experimental method, supports this research as a whole. In the performance of violin works in the national and international literature, such kind of works for the teacher candidate's problem experienced has a great importance to develop by increasing number and quality of exercises and developing new methods. According to Uludağ (2015), the innovative teaching methods and models adopted in the solution of the traditional course problems would bring different perspectives in the way of the course. There is a need for these and similar works to remind and develop the technical sense of the points where the students are missing in voices made at the work level. Demirci (2013) stated that an instrumental teaching model prepared by experts and applicable to each individual would be effective in improving the performance and the desired behavior in the individual.

5. RESULTS

The study was aimed to improve vocalization levels with experience of the difficulties encountered by the teacher candidates in the performance of the works used for violin education. At firstly, technical and musical elements of the sample work was analyzed, during collecting data for research in the direction of the general objective. Then, the experiment and control group student's common mistakes were exposed at the pre-test stage. In order to be used in the of selected exercises, Alpharabius software's data played as leading role for determining the percentages of duration and number of sounds and also in the consisting jumping voices for preparation of the exercises. In this wise, supporting exercises have been prepared by also using etudes in violin education literature.

The exercises were prepared by one by one taking the technical behaviors inside the work to be performed. Randel (2003) specified that etudes are music artifacts concentrating on effort by excluding the difficulties and designing for technical development, and also a single etude usually focused on a single technical problem. Considering many technical elements in the works, many etudes for the works is necessary to teach in the process of instrument training. Additionally, to create exercises supporting etudes which are taking account of encountering and hardly accomplishing difficulties would be more efficient for the process. The literature survey also supports this situation. That kind of approaches would provide significant facilitation in the training process of instrument trainers.

In this study, when the total criterion pre-test averages for the experimental and control groups were examined, the arithmetic mean of the experimental group was X = 27.08 and the control group was X = 30.42; and also there wasn't any statistically significant difference between experimental and the control group's pre-test results on the basis of the total criteria. There weren't any noticeable skill differences in the experimental and control group's students before total criteria score training of the pre-test. When examining of the total criterion posttest sequence averages for test and control group, it can be understanding that the average value of the experiment group (the Rank Avg.) is 18.50 and the control group (the Rank Avg.) is 6.50, and also there is a statistically significant difference between the posttest results of the experimental group and the control group on the basis of the total criteria. According to the results of the Man Witney u test conducted to determine whether the mean scores of the total criteria final test results differ, there is a significant difference between average difference scores of test group's post-test and control group's post-test [u= 0.000, p=0.000<0.05]. From another point of view, after a training in terms of the total score in the final test, there is a visible difference in the performance of the experimental group according to the control group.

6. SUGGESTIONS

It is a requirement to increase the quality and quantity of the studies taking place in national and international literature related to the performance of violin works, the problems students face, etude and exercise and the development of new methods. According to Uludağ (2015), innovative methods adopted in the solution of problems in traditional teaching approaches may give different perspectives to teaching describing forms in convenience with targeted behaviours. In the performance of works, such studies are needed to develop and remind students' technical deficiencies. Demirci (2013) stated that whatever the type of instruments, an applicable instrument teaching program and model fixed on concrete materials by experts may be positively effective in the increase of performance and gaining desired behaviours in individuals. Such a condition may both affect positively the instrument learning process of individuals and develop their skills of hearing, performing and composing music works by devoting them a programmed and disciplined working habit.

The literature surveyed and the data obtained from the study show that the musical and technical structures used in a work must be analyzed very well before the work. In this sense, it has importance to determine the parts that have difficulty in vocalization and also to develop a strategy for this parts in terms of instrument education. From this point view, writing the exercises which support performing etudes is important to improve the vocalization levels.

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