

Effect of a backing track on improvement of students' electric guitar playing skills

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ABSTRACT: This research aims to describe the effects of audio backing tracks on the improvement of electric guitar playing skills of learners at the Ahmad Dhani School of Rock, Magelang Branch. The research approach is quantitative with an experimental method. The data analysis used a multivariate analysis of variance followed by a Dunnett's test. The results of the research show that audio backing tracks are effective in improving aspects of posture by as much as 21.6%, basic technique mastery by 19.7%, perfect pitch by 19.9%, phrasing/timing by 2.1%, intonation by 19.4%, and song interpretation by 9.9%.

1 INTRODUCTION

The development of music education in Indonesia is advancing rapidly in both formal and informal music institutions (Bernard, 2007, p. 12). The Ahmad Dhani School of Rock (ADSOR), Magelang Branch, uses an innovative teaching strategy involving audio backing track media to support teaching. This research reveals the musical elements that can be developed using that media.

2 LITERATURE REVIEW

Audio backing tracks are the audio or Musical Instrument Digital Interface (MIDI) files recorded to be played along with musicians when they play a musical instrument, sing a song or to fill or add the missing parts of music instruments. According to Kai Yang and Xi Zhou, as cited in Subiakto (2012, pp. 1–12):

...MIDI (Musical Instrument Digital Interface) is a digital communications language and compatible hardware specification that allows multiple electronic instruments, performer controllers, computers and other related devices to communicate with each other within a connected network. Standard MIDI files are a popular source of music, and MIDI music is widely accepted by musicians, composers, music lovers, teachers, mobile phone users and game makers. Especially, MIDI has demonstrated a very broad application prospect in music education. ...

Based on the above description, MIDI is a digital communication language. It is more well-known as a music source and widely used by musicians, composers, music lovers, teachers and game makers. Specifically, MIDI is also used widely in music teaching (Case, 2007, p. 225).

Govan (2002, p. 108) states that a band or solo musician also often uses backing tracks or "minus-one" tracks to fill the empty part of music, as well as to help improve sound and replicate sound which is closer to the original sound. Minus-one is a track whose application is not accompanied by a voice or an instrument, whose function is the same as that of an audio backing track. Audio backing track media are expected to play a role as a supporting media

facility for learners in learning some of the aspects of musicality, including posture, basic technique mastery, perfect pitch, timing/phrasing, intonation and song interpretation.

3 METHOD

This research is quantitative, and utilises an experimental method (Pallant, 2010, p. 283). The research design used is a pretest/post-test control-group design. The sample consists of 20 learners divided into two classes: the experimental and control classes (Glass & Hopkins, 1984, p. 128). Before receiving treatments, the two classes were given a pretest (X1). Then a treatment (X2) was given to the experimental class, comprising electric guitar instruction using the audio backing track.

The evaluation was done by using a performance test in the form of the skill in playing an electric guitar, performing the song 'Sweet Child O' Mine'. The test indicators consist of six aspects, including posture, basic technique mastery, perfect pitch, timing/phrasing, intonation and song interpretation.

The treatment given to the experimental class used the audio backing track media in four class meetings in February 2017. The data obtained were in the form of the scores of the learners' skill test.

3.1 Analysis

This research has one independent variable and more than two dependent variables and therefore, it uses a Multivariate Analysis Of Variance (MANOVA). The requirement for the MANOVA test is that the distribution must be normal and homogeneous. The following is the result of the analysis of the requirements (Setyanto, 2015, p. 31).

3.2 Requirements analysis

a. Normality test

The result of the normality test of the pretest and post-test shows significant values in the aspects of posture (experimental class = 0.834, control class = 0.992), mastery of basic technique (experimental class = 0.941, control class = 0.126), perfect pitch (experimental class = 0.603, control class = 0.527), phrasing/timing (experimental class = 0.436, control class = 0.302), intonation (experimental class = 0.560, control class = 0.307) and song interpretation (experimental class = 0.503, control class = 0.139). Every aspect has p-value higher than 0.05 (or $p > 0.05$), and therefore it can be concluded that the research data in the pretest and post-test of meetings I, II and III are normally distributed.

b. Homogeneity test

The result of the homogeneity test shows that the significance value of the aspect of posture is 0.058, mastery of basic technique is 0.125, perfect pitch is 0.424, timing/phrasing is 0.870, intonation is 0.171 and song interpretation is 0.209. Every aspect has $p > 0.05$ and, therefore, it can be concluded that the two groups of data have the same variants and are homogeneous.

The treatment was conducted on 19 February 2017. The meeting was at the experimental class, consisting of the pretest class and the post-test class. The result of the research with the experimental class is presented as follows.

a. Pretest of the experimental class

The data of the pretest consisted of six aspects, including posture, basic technique mastery, perfect pitch, timing/phrasing, intonation and song interpretation, with the respondents consisting of eight learners.

Based on the data on the process of electric guitar training of the students at ADSOR before they were given the treatment, the lowest score for the *posture* aspect is 17.00, the highest score is 26.00, mean 21.62, mode 23.00, median 22.50, standard deviation 3.07. The lowest score for the

basic technique mastery aspect is 15.00, the highest 30.00, mean 22.87, mode 24.00, median 23.50, standard deviation 4.29. The lowest score for the *perfect pitch* aspect is 15.00, the highest 27.00, mean 21.75, mode 21.00, median 21.50, standard deviation 3.80. The lowest score for the *timing/phrasing* aspect is 16.00, the highest 22.00, mean 19.00, mode 16.00 and 21.00 (this is called a bimodal mode because of two in-orderly modes), median 19.50, standard deviation 2.39. The lowest score for the *intonation* aspect is 16.00, the highest 24.00, mean 20.75, mode 22.00, median 22.00, standard deviation 2.87. The lowest score for the *song interpretation* aspect is 16.00, the highest 22.00, mean 19.00, mode 19.00, median 19.00, standard deviation 2.00.

The categorisation of the data of the effect of audio backing track training on the improvement of the electric guitar skill of the students at ADSOR used the formula based on the research observation sheet shown in Table 1.

The results are grouped into five categories by using the interval system in Table 1. The result of the data analysis follow below.

Table 2 shows that before the treatment in the form of using audio backing tracks, no learners are in the Excellent or Good categories (0.00%), one learner is in the Sufficient category (12.50%), five learners are in the Poor category (62.50%), and two learners are in the Very poor category (25.00%). Therefore, it can be concluded that the tendency of the electric guitar skill of students at ADSOR without treatment using the audio backing tracks is in the Poor category (62.50%).

b. Post-test of experimental class

The post-test result of the experimental class is the data captured after they were given the treatment in the form of training by using the audio backing track media.

Based on this data, the lowest score for the *posture* aspect is 22.00, the highest score is 32.00, mean 26.87, mode 25.00 and 32 (this is called a bimodal mode because of two in-orderly modes), median 26, standard deviation 3.83. The lowest score for the *basic technique mastery* aspect is 22, the highest 36.00, mean 29.75, no mode, median 30.50, standard deviation 5.26. The lowest score for the *perfect pitch* aspect is 24.00, the highest 33.00, mean 27.75, mode 24.00, median 26.50, standard deviation 3.69; The lowest score for the *timing/phrasing* aspect is 23.00, the highest 30.00, mean 25.87, mode 24.00, median 25.50, standard deviation 2.64. The lowest score for the *intonation* aspect is 23.00, the highest 30.00, mean 26.12, mode 23.00 and 25 (there are two in-orderly bimodal modes of 23 and 25), median 25.50, standard deviation 2.87. The lowest score for the *song interpretation* aspect is 22.00, the highest 31.00, mean 25.37, mode 26.00, median 25.00, standard deviation 2.82.

Table 1. Electric guitar playing skill categorisation.

Interval	Category
35–40	Excellent
29–34	Good
23–28	Sufficient
17–22	Poor
10–16	Very poor

Table 2. Results of the mean category of the experimental class pretest.

No.	Interval category	Frequency	Percentage (%)
1	35–40	0	0.00
2	29–34	0	0.00
3	23–28	1	12.50
4	17–22	5	62.50
5	10–16	2	25.00
Total		8	100.00

Table 3. Hypothesis testing: results of MANOVA.

	Model	Sum of squares	df	Mean square	F	p
Posture	Regression	1.581	1	1.581	9.147	.009
	Residual	2.419	14	.173		
	Total	4.000	15			
Basic technique	Regression	1.590	2	.795	4.287	.037
	Residual	2.410	13	.185		
	Total	4.000	15			
Pitch	Regression	1.812	3	.604	3.311	.057
	Residual	2.188	12	.182		
	Total	4.000	15			
Phrasing	Regression	2.908	4	.727	7.326	.004
	Residual	1.092	11	.099		
	Total	4.000	15			
Intonation	Regression	2.931	5	.586	5.484	.011
	Residual	1.069	10	.107		
	Total	4.000	15			
Interpretation	Regression	3.002	6	.500	4.513	.022
	Residual	.998	9	.111		
	Total	4.000	15			

The results of the MANOVA test (Table 3) show that the posture aspect has a regression value of 1.581 with a significance of 0.009; the mastery of basic technique aspect has a regression value of 1.590 with a significance of 0.037; the pitch aspect has a regression value of 1.812 with a significance of 0.057; the phrasing aspect has a regression value of 2.908 with a significance of 0.004; the intonation aspect has a regression value of 2.931 with a significance of 0.011; and the song interpretation aspect has a regression value of 3.002 with a significance of 0.022.

4 RESEARCH FINDINGS

This experiment was conducted over a period of two months, from February to March 2017. The materials taught involved basic techniques for electric guitar, including bending, slurring, trilling, sliding, vibrating, tapping, alternative picking, harmonising, sweep picking, arpeggiating and barre. An explanation of musical scales was given, including major, minor natural, minor harmonic, minor melodic and pentatonic scales, and the learners were given the song 'Sweet Child O' Mine' by Guns N' Roses to play. The song was used as a measure of the application of basic techniques of playing the electric guitar and the understanding of musical scales.

The results are classified into five categories using the intervals shown in Table 1. The results of the mean category of the experimental class post-test (after the learners were given treatment in the form of training in the use of audio backing track media) were as shown in Table 4.

Table 4. Results of the mean category of the experimental class post-test.

No.	Interval category	Frequency	Percentage (%)
1	35–40	0	0.00
2	29–34	2	25.00
3	23–28	6	75.00
4	17–22	0	0.00
5	10–16	0	0.00
Total		8	100.00

Table 4 shows that after the treatment in the form of using audio backing tracks, no students were in the Excellent, Poor or Very poor categories (0.00%), two learners were in the Good category (25%) and six learners were in the Sufficient category (75%). Therefore, it can be concluded that the tendency for improvement in the skill in playing electric guitar of students at ADSOR of Magelang Branch after treatment is in the Sufficient category (75%).

5 CONCLUSION

There is a positive effect of audio backing tracks on the improvement of electric guitar playing, and it contributes to the process of teaching electric guitar, especially in the aspects of posture (21.6%), mastery of basic technique (19.7%), perfect pitch (19.9%), and intonation (19.4%), while for the aspect of song interpretation, the contribution is 9.9% and for phrasing/timing is 2.1% and the significance level of 0.005/6 aspects = 0.0083. Therefore, it can be concluded that backing tracks play an effective role in helping the process of teaching the electric guitar, especially in the aspects of posture, mastery of basic technique, perfect pitch and intonation.

There may be other applications for the use of backing tracks for training in other instruments, such as drums, piano/keyboard, bass, saxophone, and so on. There are also possibilities for research and development of products that can test the effectiveness of the use of backing tracks in musical training.

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