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An Experimental Study on Influence of Music Training on Students' Music Achievement

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Abstract

The purpose of this study is to conduct an experimental research to find out the influence of music training on student's music achievement. Students were classified into an experimental group and controlled group. IOWA Test of Music Literacy was given to both the groups to determine their music achievements. Then music training was imparted only to the experimental group for a period of three month by means of interventional music training module developed by the investigators. Thereafter, Test of Music Literacy was again given to both the groups. In order to determine whether music training had any influence on the student's music achievements, t test was applied to find the mean difference between pre-test and post-test of both the groups. The outcome shows that no significant difference was found between pre-test and post- test of controlled group and between pre-test of controlled and experimental group. It was also found that there was significant difference between pre-test and post-test of experimental group as well as between post-test of controlled and experimental group. Thus, it can be interpreted that music training given to the students does have a significant impact on their music achievements.

Keywords*: Students, Music Training, Music Achievement, Experimental Study.*

Introduction

Music can be experienced from almost anywhere, either on the street, at a concert, our own homes, from our phones, in schools and classrooms. Regardless of our interest and

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aptitude in music, one has the ability to benefit from experiencing music. Indeed, exposure to music can improve learning and increase positive classroom atmosphere (Eerola & Eerola, 2014; Foran, 2009) According to Hallam (2010) Active engagement with music during developmental stages can impact the way that the brain can process information. Countless studies found that experiencing calm music can reduce aggressive behavior and regulate moods especially feelings of anxiety and stress. When students are able to manage their emotions in more positive ways, students are able to enhance their learning potential (Foran, 2009). Any type of training has an effect on student's performance, thereby increasing their achievement. Therefore, training in music is also expected to have a positive influence in students' achievement in music.

Human beings have always had a fascination with music. Early people, such as the ancient Greeks, studied music and its effects. Pythagoras, an ancient Greek philosopher and mathematician, hypothesized that music was a representation of cosmic order. Other Greeks believed music had positive effects on the body and could remedy physical and mental illness (Cartwright, 2013). In the present day, beliefs concerning the benefits of music may bring people to try learning music themselves. In 2010, about 18.08 million people in the US reported that they were able to play a musical instrument (Americans for the Arts, 2013), demonstrating that musical training is quite widespread. Since music plays a large role in the life of an individual, music training given to a group of individuals is expected to have a great influence on their music ability.

Rationale of the Study

There has been a huge debate on how a musician improves musically through different means, listening, self- taught, and of course through social media where anyone can browse any kind and type of music lessons. Therefore, many people started ignoring professional music training and prefer some other means to improve their ability in music. Numerous researches, concerning music in relation to other psychological variables (creativity, Intelligence, attitude etc) and even academic achievement can be found while research regarding the effectiveness and influence of music training on music achievement is rare and hardly available, perhaps because it is a worldwide belief that music training is supposed to have influence on their achievement.

In today's world, lots of parents and musicians find taking proper music training is a waste of time and money in order to achieve musical goals, they tend to believe that learning through other means and platforms is more productive like self practice, browse the required musical lessons on internet, and even forming a band instead of going to a professional music training institution. This believes tend to spread rapidly resulting to more students leaving their proper training in music through institutions who follow professional training courses. This is why it is necessary to conduct an experiment on standardized music training and its influence on student's music achievement. Therefore, the present study is an experimental research to find out the influence of interventional music training on students' music achievement.

Objectives of the study

a) To find out the difference in music achievement among experimental group of students prior to music training (pre-test) and after music training (post-test).
b) To find out the difference in music achievements among controlled group of students prior to music training (pre-test) and after music training (post-test).
c) To find out the difference in music achievement between controlled and experimental group of students prior to music training (pre-test).
d) To find out the difference in music achievement between controlled and experimental group of students after music training (post-test).

Hypotheses

1) There is no significant difference in music achievement between pre music training and post music training among experimental group of students.
2) There is no significant difference in music achievement between pre music training and post music training among controlled group of students.
3) There is no significant difference in music achievement between controlled and experimental group of students prior to music training.
4) There is no significant difference in music achievement between controlled and experimental group of students after music training.

Methodology of the Study

Since the present study is to find out the influence of music training on students music achievement, pre-test and post-test Experimental design is applied for the present study.

Sample of study

The sample for the present study comprised of 89 students from Staine's memorial higher secondary school, Aizawl, Mizoram. The students were randomly selected to form two groups i.e. Experimental group and controlled group. There were 46 students in the experimental group and 43 students in the controlled group.

Tools Used

1) In order to find out the students music achievement, Iowa Tests of Music Literacy developed by Edwin Gordon (1991) was used.
2) Interventional music training module which was developed by the investigators was used for the purpose of training the experimental group of students.

Mode of Data Collection

Since the present study is an experimental research, the investigator chose Staine's Memorial Higher Secondary School, Aizawl to conduct the experimental research. Students were divided into experimental group and controlled groups. In order to find out their music achievement, Iowa Test of Music Literacy was given to both the groups to determining their music achievement. Thereafter, the investigator gave music training only to the experimental group by employing the interventional music training module developed by the investigator. Music training for the experimental group was conducted for three months twice a week. One

training class lasted for 45 minutes. Meanwhile the controlled group was not given any training during this period. After three months, the investigator again conducted the Iowa test of music Literacy to both the experimental and controlled groups to measure their music achievements.

Statistical Treatment of Data

Scores obtained in the Pre-test of music literacy as well as in the post-test of music literacy for both the experimental group as well as the controlled group were computed. For analyzing the collected data relevant statistical techniques such as mean, standard deviation, independent sample t-test as well as paired sample t test is employed.

Analysis and Interpretation

The findings of the present study and their interpretations are presented in the following in accordance with to the objectives.

Objective 1: To find out the difference in music achievement among experimental group of students prior to music training (pre-test) and after music training (post-test).

The mean differences in music achievement among experimental group of students prior to music training (pre-test) and after music training (post-test) is tested by applying paired sample 't' test and is presented in the following table – 1.

Table 1: Differences in music achievement between pre-test and post-test among experimental group

Experimental Group	Number	Mean	SD	MD	SEM	t-value	Sig. level
Pre Test	46	25.30	4.18	20.68	1.64	12.57	.01
Post Test	46	45.98	9.48				

Table 1 reveals that the 't' value for the significance of difference in music achievement between pre-test and post-test among experimental group is significant. Therefore hypothesis no. 1 is rejected as music achievement between the two tests differed significantly at .01 level of confidence. It is found that the mean of the post-test is much higher than the pre-test indicating that interventional module in music training given to the experimental group in between the pre-test and post-test had a great influence in the students' music achievement. Students' music achievement improved a great deal because of the music training given to them in between the two tests.

Objective 2: To find out the difference in music achievement among controlled group of students prior to music training (pre-test) and after music training (post-test).

The mean differences in music achievement among controlled group of students prior to music training (pre-test) and after music training (post-test) is tested by applying paired sample 't' test and is presented in the following table – 2.

Table 2: Differences in music achievement between pre-test and post-test among controlled group

Controlled Group	Number	Mean	SD	MD	SEM	t-value	Sig. level
Pre-test	43	23.77	3.86	0.14	1.02	0.14	NS
Post-test	43	23.91	5.05				

Table 2 reveals that the 't' value for the significance of difference in music achievement between pre-test and post-test among controlled group is not significant. Therefore hypothesis no. 2 is accepted as music achievement between the two tests did not differ significantly. It may be noted that interventional module in music training was not given to the controlled group in between the pre-test and post-test. Therefore, to find no significant mean difference between pre-test and post-test is not unexpected. It means that since no music training was given to the controlled group in between the pre-test and post-test, no improvement was found in music achievement.

Objective 3: To find out the difference in music achievement between controlled and experimental group of students prior to music training (pre-test).

The mean differences in music achievement between controlled group of students and experimental group of students prior to music training (pre-test) is tested by applying independent sample 't' test and is presented in the following table – 3.

Table 3: Differences in music achievement between controlled group and experimental group in the pre-test

Pre-test	Number	Mean	SD	MD	SEM	t-value	Sig. level
Controlled group	43	23.77	3.85	1.53	0.85	1.78	NS
Experimental group	46	25.30	4.18				

Table 3 shows that the 't' value for the significance of difference in music achievement between controlled group and experimental group in the pre-test is not significant. Therefore hypothesis no. 3 is accepted as music achievement between the two groups in the pre-test did not differ significantly. It may be noted that interventional module in music training in the pre-test was not yet given to either the controlled group as well as to the experimental group. Therefore to find no significant mean difference between the two groups in the pre-test is quite understandable. It means that since no music training was given to both the controlled group as well as the experimental group in the pre-test, no significant mean difference in music achievement was found between the two groups.

Objective 4: To find out the difference in music achievement between controlled and experimental group of students after music training (post-test).

The mean differences in music achievement between controlled group of students and experimental group of students after music training (post-test) is tested by applying independent sample 't' test and is presented in the following table – 4.

Table 4: Differences in music achievement between controlled group and experimental group in the post-test

Post-test	Number	Mean	SD	MD	SEM	t-value	Sig. level
Controlled group	43	23.90	5.05	22.07	1.62	13.58	.01
Experimental group	46	45.98	9.47				

Table 4 displays that the 't' value for the significance of difference in music achievement between controlled group and experimental group in the post-test is significant. Therefore hypothesis no. 4 is rejected as music achievements between the two groups in the post-test differ significantly at .01 level of confidence. It may be noted that interventional module in music training was not given to the controlled group in between the pre-test and post-test, but it was given to the experimental group. Therefore, it was found that the mean of the experimental group was much higher than the controlled group in the post-test. It means that interventional music training given to the experimental group had a great influence on the music achievement of the students as their music achievement improved a great deal compared to the controlled group.

Major findings

From the present study, it has been found that music training using a professionally designed course has a great influence on the achievement in music among students. Looking at the analysis of the findings, it can clearly be seen that there is a significant difference in the student's music achievement between the pre-test and post-test among the experimental group where interventional music training was given. While no significant difference was found in the student's music achievement between pre-test and post-test among the controlled group where no interventional music training was given.

Besides, student's music achievement was measured in both the experimental group and controlled groups before any interventional music training was carried out, and it was found that there was no significant difference in the mean of both the groups, however, after interventional music training was carried out among the experimental group, it was found that there was significant mean difference between the experimental group and the controlled group in the post music achievement test indicating that the difference found between the two groups is clearly the influence of the interventional music training carried out to the experimental group.

Conclusion

The present study reveals that there is positive influence of music training in student's music achievement. There are numerous students among secondary school students in Aizawl who wish to take music lesson as co-curricular activities. There are also many students who wish to enroll themselves in a proper step by step professional music training course. In the present research, music training is carried out within 3 months by giving training only to the experimental group for 45 minutes, twice a week as a co-curricular activity. Even this small attempt resulted in such a huge influence in music achievement that it can be confidently suggested that music instruction should be introduced in the secondary schools of Mizoram as a co-curricular activity. Some schools have already introduced music class as a co-curricular activity but it has been found that they do not have any kind of professionally trained course or professional teachers, so most of them just waste their time sitting in classrooms, singing some commonly known songs with teachers who are available. No proper music training had been carried out. It is suggested that for those who have already introduced music as co-curricular activity in their schools should also follow a professionally designed course and appoint professional music teachers so as to maintain standard music class as well as to motivate students with music aptitude and students who have no idea about music.

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