

# Differentiated Approaches to Aural Acuity Development: A Case of a Secondary School in Kiambu County, Kenya

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## Abstract

An examination of the Kenya Certificate of Secondary Education (KCSE) music results reveals that the performance index in aural (Paper 511/2) has been consistently low over the years. Yet the importance of this section of the examination, the “hearing with the eyes and seeing with the ear” cannot be downplayed. This study set out to test the hypothesis that there is no significant difference in performance in aural tests between students trained using the voice and those trained using the recorder. Subjects were students at a National Girl’s School within the outskirts of Nairobi where the researcher was the music teacher. The research adopted a quasi-experimental design, using two groups of 9 and 12 students, dubbed the experimental group 1 and experimental group 2 respectively. Experimental group 1 got its intervention through use of the recorder, which the students learned to play from day one and continued for two years, while experimental group 2 used the voice in all practical lessons for the same period of time. Scores on the pre-test and post-test were compared at the end of the study period. Though the researcher could not rule out the John Henry effect, the results revealed no significant difference between the groups in the performance of the aural test. However, the experimental group 1 was better at sight reading at the end of the study. It was recommended that music teachers use a mixture of both voice and instruments in the development of aural acuity at the formative stages.

**Keywords:** Kenya Certificate of Secondary Education, Music Instruction, Aural, Aural Skills.

## Introduction and Background

**“Ear and eye skills are foundational to the whole enterprise of music making.” Wheeler, 2007.**

The Kenyan system of education was changed from 7-4-2-3 to 8-4-4 in 1985. Among the most radical changes which came with this new curriculum was the introduction of new examinable subjects at both primary and secondary school levels. They included fine arts, music and home-science, collectively known as group five subjects. At the time of introducing the curriculum, there were not enough trained teachers to handle these new subjects (Makobi, 2000). The government, through the Ministry of Education (MoE) organized for intensive in-service courses between April, 1991 and August, 1992 at Kagumo Teachers college (Diploma College), targeting primary school teachers who had some prior knowledge on the new

subjects, specifically fine arts and music. The requirements for admission for the in-service course were a grade 5 certificate in Associated Board of the Royal School of Music (AB/RSM) theory examinations for music and at least a credit pass at O levels for fine arts. The course, though well handled, did not equip the teachers with aural skills and it is common knowledge that this section of the syllabus is not well handled even today (Mbeche, 2010). As researchers have noticed over time, critical listening lies at the heart of all music making and an individual is as good a music maker as he is a listener (Corey, 2010).

Music at the university was also not equipping the teacher with enough aural skills either. The result was that teachers themselves were not confident in their approach to aural and this compulsory section of the examination (paper 511/2) was and is still very poorly performed, leading to poor music grades in total and poor enrolment in the subject. Upon evaluation, the 8-4-4 curriculum was found to be overcrowded and was criticized for having too much overlap between and across subjects. Consequently, it was revised in 2002. The technical (group 5) subjects, including music, became non-examinable at primary school level, though they continued as examinable subjects at secondary level. This confounded an already problematic situation. The music teachers at secondary schools were expected handle students who did not have basic music training at primary schools and prepare them for Kenya Certificate of Secondary Education (KCSE) examination. With the already weak aural foundation for the teachers, coupled with the little or rudimentary music knowledge base for the students, the situation at secondary schools moved from bad to worse.

### **Rationale**

The KCSE music examination is packaged in three different papers. Paper 1(511/1) is the practical performance section, while paper 2 (511/2) is the aural section, testing listening skills. Paper 3 (511/3) deals with melody writing, harmony, history and analysis. For a pass in music, a candidate needs to score relatively well in all the three papers. But the situation on the ground is very different, because the performance in aural is usually very low, and the Kenya National Examination Council (KCSE) continues to decry the poor performance in music year after year. One of the major challenges for music teachers in secondary schools in Kenya is how to improve the performance of the aural section of the music paper, which would in turn boost the performance of music as a subject.

Aural skills education has been the topic of a lot of small-scale research and pedagogical writings in academic journals (Ilomäki, 2011). This is partly because of the importance of these skills in the area of music. Music educators and theorists strongly advocate the importance of developing aural and visual analysis skills which have been described as “the foundation upon which all higher level skills are built” (Hansen, 2005). Indeed, Rogers (2013) concludes that high achievement in multi-part aural dictation is the best predictor of high achievement in the other skill areas. This research, therefore, set out to find out if there could be a statistically significant difference in performance in aural if different pedagogical approaches were tried out.

### **Hypothesis**

The study set out to compare the performance of learners using different approaches to aural awareness in the lower secondary classes and was guided by the following hypotheses:

H<sub>0</sub>: There is no significant difference in performance in aural tests between students trained using the voice and those trained using the recorder. In other words  $\mu_1 = \mu_2$

H<sub>1</sub>: There is a significant difference in performance in aural tests between students trained using the voice and those trained using the recorder. In other words  $\mu_1 \neq \mu_2$

### Literature Review

The nature of skill acquisition has long been of interest to music educators (Rogers, 2013). According to Gordon's learning theory (1971), the goal of all music learning is audiation, or inner hearing. Audiation is "the assimilation and comprehension of the sound itself" or can be alternatively viewed as hearing and comprehending music in the mind when no sound is present (Rogers, 2013). Audiation occurs when learners are able to "hear with the eye and see by the ear". This means hearing a mental sound when one contemplates notated music and understanding how to notate what one has heard and only happens after learners have had ample listening opportunities (Hansen, 2005). Gordon (2007) argues that audiation forms the basis of all musical development and suggests a hierarchy of musical skill-building that begins with aural perception and discriminative listening. Both of these are practical skills that can be cultivated. But, as researchers point out, most music teachers in Kenya still adopt a theoretical pedagogy in teaching music (Mbeche, 2010), leaving out the more essential practical skills.

Aural refers to a family of educational subjects, which are specifically devoted to the development of the students' awareness of music using the ear. Terms used in English-speaking countries include musicianship, ear training, aural training and aural skills (Hedges 1999). These are the skills by which musicians identify, solely by hearing, pitches, intervals, melody, chords, rhythms, and other basic elements of music ([http://en.wikipedia.org/wiki/Ear\\_training](http://en.wikipedia.org/wiki/Ear_training)). Listening and discriminating skills are the foundation upon which all higher level skills in music are built (Hansen, 2005). Indeed, developing aural skills is fundamental to music making (Corey, 2010), and impacts on all aspects of musicianship (<http://www.abrsm.org>). These skills hone the musical mind to develop two interrelated skills, which are often referred to as "hearing with the eye and the seeing with ear" (Beckman, 2011). How these skills relate to each other, and how they can be developed and educated, are questions which teachers and researchers have been trying to answer in various ways (Ilomäki, 2011).

There are some common exercises found in aural skills and ear training classes that reflect the hearing eye and the seeing ear. These are sight-singing, rhythmic reading, error detection, melodic dictation, and harmonic dictation (Beckman, 2011). These are the very skills that are tested in the aural paper (511/2) at KCSE. This examination, administered by the Kenya National Examination Council (KNEC), has been consistently poorly performed since the inception of 8-4-4. But the worst performed section is the aural (511/2) and this impacts negatively on the overall performance of the music paper. It can thus be deduced that the teaching of music aural in secondary schools in Kenya presents a great challenge to the teachers. This could partly be due to the fact that the student has not been exposed to the music language in a formal way in the primary school, and the "musical" ear development is still very rudimentary at entry into secondary school (Makobi, 1985). Teachers are also not adequately prepared to handle the aural section of the music paper, as noted by both Makobi (1985); Mbeche (2010), and repeatedly express difficulties in getting the students to master the desired skills in aural. Students, in turn, frequently seem to experience aural-skills courses as difficult, or feel that they do not optimally benefit from the education or see its relevance for their broader engagement in music (Ilomäki, 2011). This kind of impasse calls for the creative teacher to experiment with various pedagogical approaches to aural skills training.

In the secondary schools in Kenya, generally, there is a common misconception that one requires expensive instruments in order to teach music aural effectively. While this may be partly true, this quasi experimental study set out to ascertain the truth of this allegation. It therefore concerned itself with the use of voice and the use of recorder in aural training.

### **Participants**

The study was conducted at a National Girls' school, located at the outskirts of Nairobi, the capital city of Kenya. In the school setting, there were usually six form one classes admitted every year. As students enrolled in form one, they were randomly assigned to any of the six available streams. The six streams were introduced to the group five subjects (Music, French, Fine art, Business education, Home science and Agriculture) in intact classes for one month. Then the girls were given the chance to opt for any two of the group five subjects. The music option usually got about four students per class, with variations of plus or minus two. This made about twenty music students per stream. In the time- table, the optional subjects were to be taught at the same time, such that the students simply went to the rooms set aside for these optional subjects at the allocated time. Those who opted for music were taught in two groups of approximately ten students each for the first two years. Since the choice to belong to one group or the other was purely random, the researcher took these to be the randomized groups. These groupings continued to the end of form two, when the students opted to either drop or continue with music (and other group five subjects) to the examination level. So in the form one and two classes, there were two quasi-randomized groups available for the study. The study participants were the form one music group in the year 2011 which consisted of 21 girls, who were taught in two separate groups of 9 and 12 girls.

### **Methodology**

The study adopted a quasi- experimental approach because the randomization of the participants was not in the researcher's hands. The group with 9 girls was dubbed experimental group 1 and was trained in the playing of the recorder from the beginning. Every music lesson had a recorder playing component. They used the recorder book 1 and towards the end of the first year, they could play at sight almost all the music pieces in recorder book 1 and 2. The experimental group 2 had twelve girls and their lessons consisted of singing scales and reading music using the voice as their primary instrument. They used researcher constructed exercises for sight reading. There were a lot of similarities in the exercises, the only difference being the mode of performance. Both groups were handled by the researcher who was the only music teacher in the school. There was no other trained teacher in the school. At the middle of the first year, soon after being introduced to rhythmic and melodic dictation, both groups were given a similar aural test at the same sitting and the results compared. This served as the pretest and mainly included rhythms, rests and short melodies. As the interventions continued, the researcher kept using exercises which were balanced in terms of difficulty level. At the end of term three, form two, both groups were given another aural test at the same sitting which served as the post-test.

### **Results and Discussion**

The tests were administered at the same time in the same room, under standard conditions. The test had five questions. Question one, two and three required the students to listen to recorded excerpts and notate the rhythms and the melodies played. Question four and five required the students to detect errors in melodic passages after hearing the original version

two times. The scores in the pre-test are shown in tables 1 and 2 while the scores for the post-test are shown in tables 3 and 4. Student C in the experimental group had transferred at the end of the first year and therefore did not sit the post-test.

### Findings

Table 1

#### Pretest- Scores

Experimental Group 1		Experimental Group 2	
Student	Score (maximum 100)	Student	Score (maximum 100)
A	54	A	64
B	59	B	48
C	66	C	54
D	72	D	49
E	42	E	58
F	46	F	60
G	45	G	56
H	56	H	53
I	60	I	62
		J	66
		K	44
		L	42
TOTAL	500	TOTAL	656
MEAN	55.56	MEAN	54.67

At the end of form two, both groups were given another aural test at the same sitting. The results are shown in table 3 and table 4. Student C in the experimental group had transferred at the end of the first year and therefore did not sit the post-test.

Table 2

#### Posttest- Scores

Experimental Group 1		Experimental Group 2	
Student	Score (maximum 100)	Student	Score (maximum 100)
A	56	A	72
B	72	B	52
C	64	C	--
D	70	D	64
E	48	E	62
F	56	F	60
G	60	G	65
H	58	H	62
I	58	I	66
		J	70
		K	54
		L	52
TOTAL	542	TOTAL	679
MEAN	60.22	MEAN	61.73

A comparison of the means was done using the student's t-test to test the null hypothesis. For the pretest, the calculated values were as shown in table 3

Table 3

*Calculated values*

Group	Experimental group 1	Experimental group 2
mean	55.56	54.67
S.D.	10	7.77
S.E.M	3.33	2.24

The difference between the means was not statistically significant at .05.

A comparison of the posttest scores at 0.05 significance produced the statistics shown in table 4.

Table 4

*Calculated Values*

Group	Experimental group 1	Experimental group 2
mean	60.22	61.73
S.D.	7.45	6.78
S.E.M	2.48	2.05

The calculated value was 0.642 for the two tailed test. The value from the t table was 1.734 at 0.05 significance level. Since the calculated value was smaller than the value from the tables (i.e.  $0.642 < 1.734$ ), it was interpreted to mean there is no statistically significant difference between the means of the two groups.

This small-scale research compares the scores of two different experimental groups trained using instruments (recorder) and voice. The difference between the performances of the two experimental groups at the start of the intervention was not significant, interpreted to mean the two groups were matched, though the grouping was outside the researcher's control. The same non-significant difference was maintained after the intervention, showing that the interventions elicited no differences between them, in actuality equating use of voice to use of the recorder in aural training. As a limitation, it should be noted that the researcher was not in a position to control for the John Henry effect. An additional observation was that the experimental group 1 was slightly more fluent at sight reading than the experimental group 2.

## Conclusions

From the results above, it can be concluded categorically that there was no significant difference between the two experimental groups at the end of the study period. They were both able to do what Karpinski (2000) calls *thinking in music*, as an opposite to *thinking about music*. Using both approaches, it is possible to produce "music listeners who understand what they hear...and *auralize* what they read". This finding sends a strong message to secondary school administrators who always cite "unmanageable finances" as the reason for not introducing music in their schools. It can further be interpreted to suggest that even without instruments, students can develop sharp aural acuity. The policy makers and head teachers should therefore feel confident to introduce music in schools, even when they do not have "expensive" instruments. To the practitioners, the researcher recommends use of both instrumental and voice approaches in the teaching of aural to beginners.

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