

## Chapter 5

### Conclusion

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Ear training is a crucial part of every serious music education program. This research addressed issues in the field of elementary harmonic dictation, the issue being that students are having difficulties doing harmonic ear training because harmonic ear training is given less importance.

The process of ear training consists of four phases: hearing, remembering, understanding and notating. The final result of musical dictation is a visual representation of a sound or collection of sounds.

The purpose of this visual representation is not only to communicate what these sound(s) represent to someone who has not heard it but also to “develop the understanding ear and the hearing mind” as (Benward, 1969) describes, meaning the purpose of dictation is to produce a certain kind of musician who can hear sound as meaningful patterns.

Music educators emphasize the interrelationship between thinking and listening in the study of music theory: “the more thinking that takes place, the more there is to hear; the more listening that takes place the more there is to ponder”.

Rodgers (1984) states that learning how to hear a sound in its contextual relationship and knowing its meaning is crucial. It is even more important even than getting the right note. Right answers can even be irrelevant or harmful if these are heard without the appropriate listening habits.

For reasons of convenience, ear training and analysis are usually treated as two topics within music theory but should be taught as one.

Traditionally, most ear training texts use repetition or drill as a reinforcement tool.

The weakness of a pure drill approach centers on a failure to distinguish between sound events (requiring just ears) and musical events (requiring ears and minds).

On the other hand recent research on cognitive learning suggests that the role of drill and practice in learning may be more important than has previously been realized. (Salisbury, 1988)

I chose to use a drill approach as I believe the drill technique is an efficient teaching method for the development of aural skills but not enough as a standalone tool.

The method I proposed is to complement the drill techniques with the root motion approach, in other words, adding the root motion approach in order to achieve a more complete and broader hearing experience. Complementing the drill technique with a root motion theory provides a holistic approach that allows the students to hear in a musical context.

It is not important whether ear training classes should be set up in a separate class or in a combined class. What matters is that we do not hear just to make analysis easier. We do analysis to make listening easier and it is this that is so often overlooked in the ear-training class. In Rodger's words: "It is surprising that such golden opportunities are often missed since analysis is the natural leader of the ear. Almost all students are more advanced conceptually than perceptually."

The objectives of this research were to develop eight lessons for music majors using root motion theory and drill technique in order to improve the student's accuracy in elementary harmonic ear training skills. The researcher then tested the lessons on a sample group (N=17) and investigated whether the method improved the accuracy of the subjects' harmonic ear training skills.

The harmonic progressions used in this project were limited to chord sequences of no more than four chords (triads) derived from the diatonic major scale.

Preliminary tests were done in a pilot study over a period of 4 weeks. Its purpose was to confirm the problem statement and to collect more data that would allow me to analyze the problems more in detail, especially the delimitation of the study.

All eight lessons developed are practical lessons (listening exercises) except for the first lesson in which the root motion principles are explained. Here the students are taught how to hear the relationships between chord progressions using the principles of root motion theory. All lessons consist of harmonic ear training exercises that are designed to train the students on three levels:

5. the recognition of chord progression types (three) according to the root motion theory principles (Group A): strong progressions (S), weak progressions (W) and superstrong progressions (SS)
6. chord quality identification (Group B) : major and minor chords
7. the recognition of chord progressions (Group C): chord sequences of maximum four chords starting on the I chord.

The adding of the recognition of chord progression types (GroupA) allows for a more structural hearing, a horizontal way of hearing chord progressions. As Benward (1990) explains "the purpose of dictation is to produce a certain kind of musician who can hear sound as meaningful patterns. "

Root motion theory provides a simple representation of all chord movement in only 3 groups, it is visual and is representative for the harmonies used in the common practice period.

All students were evaluated before and after the treatment in a pretest posttest design. The students were tested using 40 chord progressions. Also two evaluation were done during the treatment.

## The results of the research

From the data collected I can conclude that the treatment had a positive effect on the subjects and that the hypothesis holds true.

The results of the study showed a mean score of 64.82% at the pre test and 85.36% at the post test, an average increase of the mean after treatment of 20.54%.

The evaluation tests (E1 and E2) done during the treatment showed that the students understood the material presented in the lessons. The requirement to be met was that at least 70% of the students need to score more than 65% on both tests. We succeeded in meeting these requirements.

The means (average for all students) of the evaluations were 78.14% (B+) for E1 and 87% (B+) for E2.

## Interpreting the results

I consider a 20.54% increase a significant improvement for two reasons:

- All students had previous ear training education to a certain degree. The students used during this project ranged from second to fourth year students.
- The treatment lasted a relative short time, eight lessons.

I believe the significant increase of accuracy in harmonic ear training was possible because of three main reasons:

- Students were encouraged to recognize not only chord progressions but also chord progression types as classified in a root motion theory.
- Students were consistently drilled using the same type of exercises.
- Limited material was used during this treatment (only elementary progressions starting and ending on I chord)

A surprising fact is that not only students that had a low pre test score improved through the treatment, also students with a high score at the pretest increased their accuracy. Four students had a score of 80% or more on the pretest; the average increase of these students was still 11.9%. This shows that the incorporation of chord progression type exercises together with consisting drilling can further sharpen their hearing skills.

The increase was significant in all but one student. This student showed an improvement of 2.5%, this is because the student had already a high score at the pretest.

The pretest shows that there is no significant relationship between the years of education and the results of the pretest meaning a second year student might have a better score than a fourth year student. Caution is advised here because only 21% were second year students. I believe this is common in music institutions; the musical experiences of the students can be very different. Thostenson (1967) already found that, particularly for college freshmen, the choice of the performing medium (instrument) and length of previous training in a performing were important factors for success in these skills. Already in 1971, Gordon has identified the relationship between musical aptitude and intelligence.

The evaluations done during the treatment showed an average grade of B+ in both tests which I believe shows that the students understood the contents.

### **Chord type recognition and root motion**

The exercises on chord type recognition evaluated whether the students could recognize the strong, weak and superstrong progressions (according to root motion theory).

The exercises on chord type recognition had an average increase of 24.5% which means the students understand and could implement the principles of root motion.

The fact that progression types were included in the exercises enforced students to listen in a different way than they were used to before (or at least they tried to do so).

I believe it is important to listen to chord movement in this way. It is certainly not the only way we can do ear training but classifying harmonic progressions using the root motion principle has certainly had a positive effect on the listening skills of the subjects.

Apart from the fact that the students improved their listening skills, they were also introduced to the theoretical principles of root motion theory that explains how chords tend to move, allowing the students not only to hear chords in meaningful patterns but also comprehend what they hear.

This is after all the whole purpose of ear training.

This knowledge from this research and the method are also useful for composition and harmony classes.

### **Chord identification**

Chord identification (minor and major triads) was already at a very good level (83% at lesson 2) but increased another 12 %, resulting in an almost perfect score. It shows again that doing harmonic ear training exercises step by step is the key, it certainly is efficient for harmonic ear training.

Because the scores for chord identification were at high level, I decided to add an extra test at the last lesson. This time I also added diminished and augmented triads and informed the students. The mean score was at 75%. (See Fig. 13)

### **Step by step**

This research showed me that it is important not to overwhelm the students with material from the first lesson on. I learned that focusing on a few progressions (instead of all possible progressions at once) gives very good results on a short term basis. Gradually adding new material works well for harmonic ear training using a drill method.

### **Suggested further research.**

The principles of root motion that were used in this project hold also true in more chromatic tonal music. I believe that is its real beauty. It can be applied to progressions in all tonal music. The exercises for this research was limited to very basic progressions but can be used in more advanced progressions.

In my opinion, once a student can hear a weak progression like C to Em, it is only a matter of time and practice before he can hear for example C to Eb or C to Gm.

Therefore more research can be done using the same method but with more advanced chord progressions. For starters one could add secondary dominant chords.

It would be interesting to further investigate the relationship between freshmen's ear training accuracy and the amount of experience a student has in playing an instrument, because previous research shows that there is a correlation.

Finally, research on comparative root motion analysis between different styles of music is a fascinating topic for a project. The data that would be revealed from such a study would be interesting, especially concerning chord progression patterns.