

A STUDY OF ABILITY IN SPONTANEOUS AND PREPARED
JAZZ IMPROVISATION AMONG STUDENTS WHO POSSESS
DIFFERENT LEVELS OF MUSICAL APTITUDE

CERTIFICATE OF APPROVAL

PH.D. THESIS

This is to certify that the Ph.D. thesis of

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ABSTRACT

The specific problems of this study were: (1) To determine whether there is a significant interaction between spontaneous and prepared jazz improvisation mean scores of high, average, and low scoring students on the Musical Aptitude Profile Tonal Imagery test. And, similarly, to determine whether there is a significant interaction between spontaneous and prepared jazz improvisation mean scores of high, average, and low scoring students on the Musical Aptitude Profile Rhythm Imagery test, the Musical Sensitivity test, and the MAP composite test; (2) To determine the comparative extent to which Musical Aptitude Profile scores predict success in both spontaneous and prepared jazz improvisation.

Forty-eight students from four Iowa high school jazz bands served as subjects in this investigation. All students were given MAP prior to any instruction in jazz improvisation.

Classes met for a two-hour period each week for thirty weeks. The content of individual class meetings emphasized the theoretical principles used in jazz, developing improvisational facility, and developing

students' awareness of jazz style and interpretation.

The criteria for evaluating each student's ability in jazz improvisation were based on two performances: (1) a tape-recorded performance of a thirty-two measure pop-song in the concert key of B^b Major and (2) a tape-recorded performance of a twelve measure blues in the concert key of F Major. The same selections were utilized for the spontaneous and prepared improvisations of the pop-song and the blues. Evaluation of the performances was accomplished independently by three judges.

Criterion scores were analyzed through a two dimensional treatments-by-levels-by-subjects design. The "treatments" in this study were the two methods of performing jazz improvisation. The levels dimension was determined on the basis of MAP scores.

The analysis was conducted eight times. Four of the analyses involved the pop-song performances. The MAP Tonal Imagery scores were used for the first analysis, the MAP Rhythm Imagery scores were used for the second, the MAP Musical Sensitivity scores for the third, and the MAP composite scores were used for the fourth analysis. Similarly, the second set of four analyses involved the blues performances, with each of the four MAP scores serving in turn as the levels dimension.

The separate treatments-by-levels-by-subjects instruction in jazz improvisation.

analysis of variance for each of the two criteria compositions revealed no significant interactions. However, the main effect of treatments, which favored prepared improvisation, was found to be statistically significant for all analyses.

The analyses involving the Tonal Imagery scores, the Rhythm Imagery scores, and the MAP composite scores revealed no statistically significant main effect of levels. However, the main effect of levels was found to be statistically significant in the analyses involving the MAP Musical Sensitivity scores.

From the results of this study, it cannot be concluded that, after one year of instruction, instrumental music students who score at approximately the 90th percentile on the MAP battery are necessarily more capable of developing, on their own, insights pertaining to ability in jazz improvisation than are students who possess somewhat lower levels of musical aptitudes. However, it can be concluded that all instrumental music students who are above the norms medians on MAP can profit from instruction in jazz improvisation. Moreover, although instrumental music students should be encouraged to study jazz improvisation, those who score near and above the 80th percentile on the MAP Musical Sensitivity test should be particularly urged to avail themselves of instruction in jazz improvisation.

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Chapter I

PURPOSE OF THE STUDY

Introduction

The past two decades have been most important for jazz education in the public schools. The impact made by jazz has brought about changes in both general music and instrumental music curriculums. Since 1958, the number of jazz bands in the schools has grown to over 8,000.¹ Furthermore, the success of these performing groups has been such that the idea of young people playing big band jazz is now generally accepted by the academic community.

Within recent years, increased emphasis has been placed upon the problem of relevance in education. Music educators have not been exempt from these challenges directed toward the traditional curriculum. In July, 1969, the question of a relevant approach to music education came to the fore at the Youth Music Institute in Madison, Wisconsin. The University of Wisconsin Extension Music Department, the United States Office of Education, and the Music Educators National Conference

1. Paul O. Tanner, "The Musical Values of the Stage Band," Music Educators Journal LI/5 (Apr.-May 1965), 83.

were the co-sponsors of this month-long discussion of the question. This inquiry prompted the following statement by M.E.N.C. President, Wiley L. Housewright:

Church choirs, marching bands, choruses, and orchestras do not fully satisfy the musical appetites of the young...thousands of American youth want more...Young people's music can be held at bay outside the institutions of society as it largely is at present, or it can be recognized as a vital and welcome new regenerative force and invited to assume a respectable position in the American musical culture...There is much to be gained from the study of any musical creation. Rock, soul, blues, folk, and jazz cannot be ignored...The Music Educators National Conference...not only accepts rock and other present-day music as legitimate, but sanctions its use in education.²

True, relevance is a word that has become a cliché in educational philosophy. Yet, one cannot overlook the fact that many traditional notions are being challenged. As a result, many educators are engaged in curriculum developments that hopefully represent a positive response to today's known demands and to the yet unspecified needs of the future.

2. Wiley L. Housewright, "Youth Music In Education," Music Educators Journal LVI/3 (Nov. 1969), 45.

Purpose of the Study

The Musical Aptitude Profile³ is known to possess validity in regard to its use in typical school music endeavors. However, no one had investigated the possibility that the scores derived from the test battery could aid music teachers in adapting instruction in jazz improvisation to students' individual needs. There was also a dearth of evidence regarding which tests, if any, could be used to identify the students who would best be able to generalize from instruction in jazz improvisation. The general purpose of this study, then, was to investigate the extent to which students who possess different levels of musical aptitude possibly differ in their ability in jazz improvisation.

Problem of the Study

The specific problems of this study were:

1. To determine whether there is a significant interaction between spontaneous and prepared jazz improvisation mean scores of high, average, and low scoring students on the Musical Aptitude Profile Tonal Imagery test. And, similarly, to determine whether there is a significant interaction between spontaneous and prepared

3. Edwin Gordon, Musical Aptitude Profile (Boston: Houghton Mifflin Co., 1965).

jazz improvisation mean scores of high, average, and low scoring students on the Musical Aptitude Profile Rhythm Imagery test, Musical Sensitivity test, and the MAP composite test.

2. To determine the comparative extent to which Musical Aptitude Profile scores predict success in both spontaneous and prepared jazz improvisation.

The present investigation, therefore, is pertinent to the study of the Musical Aptitude Profile in (1) identifying talented students and (2) aiding teachers in the appropriate instruction in instrumental music. The latter was done when teachers can utilize the knowledge of their students' individual differences in various dimensions of musical aptitude.

The Musical Aptitude Profile Study was designed as a two-year study of the effectiveness of providing diagnostic information through the use of the Musical Aptitude Profile results in the placement of instruction. The study included 170 students enrolled in grades four and five in public schools.

1. "The Musical Aptitude Profile Study: A Study of the Effectiveness of Providing Diagnostic Information through the Use of the Musical Aptitude Profile Results in the Placement of Instruction." Ph.D. thesis, University of Iowa, 1971, 45-64.

Chapter II

RELATED STUDIES

Introduction

To the present time, there have been no experimental research studies related to the teaching of jazz improvisation. Only two studies appeared to be pertinent to the present investigation. These relate to the practical use of Musical Aptitude Profile scores in (1) identifying musically talented students and (2) aiding teachers in providing appropriate instruction in instrumental music. The latter use occurs when teachers can capitalize upon their knowledge of their students' individual differences in various dimensions of musical aptitude.

MAP Diagnostic Validity Study⁴

This investigation was designed as a two-year study of the effectiveness of providing diagnostic information, through the use of the Musical Aptitude Profile results, on the improvement of instruction. The study included 190 students enrolled in grades four and five in Kenosha, Wisconsin.

4. Edwin Gordon, "Taking Into Account Musical Aptitude Differences Among Beginning Instrumental Students," Studies in the Psychology of Music VI (Iowa City, Iowa: University of Iowa, 1970), 45-64.

The MAP battery was administered at the beginning of the school year and the students were grouped into four musical aptitude levels as follows:

- 1 - High Aptitude--from the 90th to the 99th percentile,
- 2 - Above Average Aptitude--from the 68th to the 89th percentile,
- 3 - Below Average Aptitude--from the 25th to the 67th percentile, and
- 4 - Low Aptitude--from the first to the 24th percentile.⁵

At each aptitude level the children were further classified with respect to sex, school grade, and type of instrument to be studied. Within each subgroup they were randomly assigned to either an experimental or a control group.

The students were given one thirty-minute weekly lesson in instrumentally homogeneous groups. Prior to the commencement of this instruction, MAP scores earned by students in the experimental group were made available to the music instructors. Conversely, MAP results for students in the control group were not revealed to the teachers. It was hypothesized that:

through the objective knowledge of profiles and levels of musical aptitude

5. Ibid, 46.

provided by MAP, teachers would be in an advantageous position to make appropriate provision for experimental group students' musical strengths and weaknesses, whereas in the case of control group students the teachers would be forced to rely on their own subjective, traditional approaches for assessing students' musical aptitudes and, hence, would be at a disadvantage in their efforts to adapt to individual needs.

In order to better adapt instruction to meet the individual musical needs of all students, the teachers were made aware of the teaching suggestions included in the MAP Manual.⁷ In addition, supplementary materials consisting of specially composed music, singing and eurythmic exercises, and work sheets were developed for group use with students who possessed different levels of tonal, rhythmic, and musical sensitivity aptitudes.

At the end of the two-year program of musical instruction, two sets of scores served as criteria for evaluating the students' musical progress. The first set of criteria consisted of ratings of the following material:

1. Two tape-recorded instrumental performances of specially composed musical etudes which the students prepared in advance with teacher help;

6. Ibid, 47.

7. Suggested uses of MAP results appear in Chapter V, "Interpretation and Use of Test Results," Edwin Gordon, Musical Aptitude Profile Manual (Boston: Houghton-Mifflin Co., 1965) 36-43.

2. Two tape-recorded instrumental performances of specially composed musical etudes which the students prepared in advance, but without teacher help;

3. One tape-recorded instrumental performance of a specially composed musical etude which was sight-read.⁸

Two qualified judges evaluated these performances according to students' tonal, rhythmic, and musically expressive interpretation.

The second set of evaluative criteria consisted of scores obtained on the Iowa Test of Music Literacy, Level One.⁹

An examination of the reported overall mean differences between the performance rating scores of experimental and control group students revealed that all of these differences significantly favored the experimental group. This fact supports the inference that:

...when one of two groups of students similar in levels of musical aptitude is taught by a teacher possessing foreknowledge of each student's musical aptitude, it is possible for this teacher to take advantage of this knowledge to increase mean instrumental music achievement.¹⁰

8. Gordon, Studies in the Psychology of Music VI, 48.

9. Edwin Gordon, Iowa Tests of Music Literacy (Iowa City, Iowa: Bureau of Research, University of Iowa, 1971).

10. Gordon, Studies in the Psychology of Music VI, 52.

9

Gordon also reported "that teachers' knowledge of MAP results is about as beneficial at one level of musical aptitude as at another."¹¹ Finally, he found "a direct and statistically significant relationship between MAP composite score levels and achievement in instrumental performance."¹²

MAP Longitudinal Predictive Study¹³

This investigation was designed as a three-year longitudinal predictive validity study to determine the extent of the relationship between pre-training MAP test results and success in learning to play a musical instrument. The subjects included all 241 students enrolled in selected fourth and fifth grade elementary school classrooms in Davenport, Cedar Falls, and Iowa City, Iowa, and Racine, Wisconsin.

Prior to the start of instrumental music instruction the MAP battery was administered to all students. During the following three-year period all students were given a minimum of one group instrumental

11. Ibid., 55.

12. Ibid.

13. Edwin Gordon, A Three-Year Longitudinal Predictive Validity Study of the Musical Aptitude Profile, Vol. V: Studies in the Psychology of Music (Iowa City, Iowa: University of Iowa, 1968).

music lessons each week. The results of the pre-training aptitude test were not available to any teacher until the study was completed.

Five criteria were followed in evaluating instrumental music achievement. These consisted of adjudicator ratings of:

1 - melodic, rhythmic, and expressive aspects of tape-recorded performances of short etudes which the students prepared in advance with teacher help,

2 - melodic, rhythmic, and expressive aspects of tape-recorded performances of short etudes which the students prepared in advance but without teacher help,

3 - melodic, rhythmic, and expressive aspects of tape-recorded performances of short etudes which the students sight-read;

4 - teacher ratings of each student's musical progress as compared with that of other students in the group; and

5 - performances on an objective musical achievement test specifically designed to assess ability to identify musical notation associated with melodic, rhythmic, and harmonic passages heard on a tape-recording, and to assess knowledge of musical terms and signs.¹⁴

All of the tape-recorded performances were independently rated by two judges.

At the end of each of the three years of the

14. Ibid. 6-7.