AN INVESTIGATION OF THE USE OF MUSICAL APTITUDE PROFILE SCORES IN THE INSTRUCTION OF BEGINNING STUDENTS IN INSTRUMENTAL MUSIC

by

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TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

Chapter 1

PURPOSE OF THE STUDY

Introduction

In the public elementary schools of the United States, it is common practice for teachers to adapt instruction to meet the individual needs and abilities of students in subjects such as reading and mathematics. In contrast, the individual musical needs and abilities of students are, for all intents and purposes, largely unaccounted for in the general music class and particularly in the beginning instrumental music class. The consideration of individual musical needs is limited primarily to the selection of high ability students for participation in musical performance groups or for special instruction in instrumental music.

The provision for instruction in instrumental music in the elementary schools of this country is widespread and represents one of the unique characteristics of American public education. Most often, elementary students are taught instrumental music in groups of varying sizes through the use of published group method books and supplementary materials. The method books and materials used are not designed to take into account the individual musical needs and abilities of students, and the group method of teaching makes it difficult for even the most perceptive teachers to

accurately assess the individual musical abilities of students. However, with objective knowledge of students' individual musical strengths and weaknesses and through the use of flexible methods and materials, the practicability of taking individual differences into account might be enhanced.

With the recent publication of the Musical Aptitude Profile[1] there is now available a test battery specifically designed "to act as an objective aid in the evaluation of students' basic aptitude so that the teacher can better provide for individual needs and abilities."[2] Specifically, the author suggests that scores on the Musical Aptitude Profile can be used for the following educational purposes:

1. To encourage musically talented students to participate in music performance organizations.
2. To adapt music instruction to meet the individual needs and abilities of students.
3. To formulate educational plans in music.
4. To evaluate the musical aptitude of groups of students.
5. To provide parents with objective information.[3]

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1. Edwin Gordon, Musical Aptitude Profile (Boston: Houghton Mifflin Company, 1965).

2. Edwin Gordon, Manual, Musical Aptitude Profile (Boston: Houghton Mifflin Company, 1965), 2.

3. Ibid., 2-3.

The relationship of MAP* subtest scores to specific musical behaviors of elementary general music students and college instrumental music students has already been demonstrated.[4] If the findings of these diagnostic validity studies could be successfully applied to the instruction of elementary instrumental students, the music teacher might gain valuable insights into student potential that could result in a more rapid and complete realization of an individual's musical talents.

For example, a beginning student with unusually high tonal perception (as measured by the MAP Tonal Imagery test) could be encouraged to improvise and transpose "by ear" at an early stage of musical development. Or, MAP subtest and composite scores might be used to distinguish the low ability student from the average or above average student who is unmotivated. Further, high scoring students who fail to achieve satisfactorily could be examined for physical characteristics which might make the instrument they are studying unsuitable for them. An early change to a more compatible instrument could permit a student who might otherwise be a certain drop-out or low achiever to become a successful

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*For ease of presentation, the Musical Aptitude Profile will usually be referred to as MAP.

4. Gordon, "The Lincolnwood-Rochester Study," Manual, op. cit., 73-79, and Warren G. Hatfield, "An Investigation of the Diagnostic Validity of the Musical Aptitude Profile with Respect to Instrumental Music Performance" (Unpublished Ph. D. dissertation, University of Iowa, 1967).

participant in a school music program. Careful attention to each student's Rhythm Imagery score might prevent a low scoring student from developing poor habits. It might also permit the teacher to provide early remedial training designed to develop concepts of consistent tempo and meter which are necessary for the development of rhythm reading skills. Finally, with diagnostic information provided by Musical Sensitivity subtest scores, it is possible that aspects of phrasing, style, and expression could be treated on an individual basis in conjunction with instruction in breathing and breath control. In fact, the value of valid diagnostic information might be limited only by the skill and imagination of the teacher who possesses such information.

Problem of the Study

The major problem of this study, then, was to determine if elementary instrumental music students who are instructed by teachers utilizing MAP subtest scores demonstrate a significantly higher level of musical achievement than do students who are instructed by teachers having no knowledge of test results. Ancillary problems of the study were: (1) to develop teaching techniques and instructional materials, such as flash cards and work sheets, which would aid teachers in coping with the individual differences revealed by MAP results, and (2) to construct supplementary group lesson materials which would prove flexible enough to

allow the simultaneous performance of several musical exercises written at various levels of difficulty.

Description of the Musical Aptitude Profile

The basic musical factors measured by the Musical Aptitude Profile are classified into three main divisions: Tonal Imagery, Rhythm Imagery, and Musical Sensitivity. There are two separate subtests in each of the non-preference tests, Tonal Imagery and Rhythm Imagery. They are Melody and Harmony for the former and Tempo and Meter for the latter. The preference test, Musical Sensitivity, is comprised of three subtests: Phrasing, Balance, and Style. Each of the non-preference tests consists of forty items and each of the preference tests consists of thirty items -- making a total of two-hundred and fifty items for the complete test.

MAP measures musical aptitude in a purely musical fashion. All test items consist of short original musical selections which are performed on stringed instruments by professional musicians.* The entire battery, including directions and practice selections, is recorded on high fidelity magnetic tape.

During the 1964-65 school year, MAP was nationally standardized in a carefully planned program which included

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*The performers are: violinists Stuart Canin and Charles Treger, and the cellist, Paul Olefsky.

12,805 students enrolled in grades four through twelve in twenty school systems in eighteen states. Normalized standard scores and percentile rank equivalents are reported in the test manual for musically select and unselect students for each grade, four through twelve.

Split-halves reliability coefficients, adjusted for length through the use of the Spearman-Brown Prophecy Formula, were derived from the standardization data for unselect and musically select students in each grade. The reliabilities vary somewhat from grade to grade and from test to test, but are generally in the .70's and .80's for the subtests, in the .80's and lower .90's for the total tests, and in the range from .90 to .96 for the composite test.[5]

As stated, the validity of MAP subtest scores as diagnostic tools for evaluating the specific musical aptitudes of general music students and college instrumental music students has been substantiated in two investigations. The Lincolnwood-Rochester study[6] revealed a significant relationship between specific musical behaviors and certain MAP subtest scores of elementary general music students. A recent study by Hatfield[7] uncovered similar relationships for college instrumental music students.

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5. Gordon, Manual, op. cit., 50.

6. Ibid., 73-79.

7. Hatfield, op. cit.

In addition to the diagnostic studies, which bear directly on the purpose of this study, there have been several studies designed to investigate the concurrent and predictive validity of MAP. Tarrell[8] and Fosha[9] obtained evidence that musical achievement and musical aptitude, as defined by MAP, were highly correlated, thereby initially suggesting that MAP might be used as a tool for identifying musically talented students. The predictive validity of the MAP battery was established by Gordon[10] through a comprehensive three-year longitudinal study completed in June, 1966. Performance criteria were gathered in the form of judges' evaluations of tape-recorded instrumental performances, musical achievement test scores, and teacher ratings. Combined validity criteria correlated with the Tonal Imagery, Rhythm Imagery, and Musical Sensitivity tests yielded coefficients of .60, .60, and .62 respectively. The predictive validity of the MAP composite score, using the combined unweighted validity criteria, was found to be .75.[11]

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8. Vernon V. Tarrell, "An Investigation of the Validity of the Gordon Musical Aptitude Profile" (Unpublished Ph. D. dissertation, University of Iowa, 1964).

9. R. Leon Fosha, "A Study of the Concurrent Validity of the Musical Aptitude Profile" (Unpublished Ph. D. dissertation, University of Iowa, 1964).

10. Edwin Gordon, A Three-Year Longitudinal Predictive Validity Study of the Musical Aptitude Profile, Vol. 5: Studies in the Psychology of Music (Iowa City: University of Iowa Press, 1967).

11. Ibid., 35.

Chapter II

RELATED STUDIES

Introduction

In contrast with the numerous studies which have been conducted to investigate the concurrent validity of various musical aptitude tests, very few studies have been designed to investigate the diagnostic validity of these tests. It is surprising to discover that even among the many investigations of the Seashore Measures of Musical Talents,[12] none has dealt specifically with the diagnostic properties of the Seashore battery.

To the writer's knowledge, there are only two studies which bear directly on the diagnostic properties of musical aptitude tests. Both studies were designed to investigate the theoretical relationships among Musical Aptitude Profile scores and specific musical behaviors. Although neither was designed to investigate the practical diagnostic use of MAP with elementary instrumental music students, both, nevertheless, are reviewed in detail in this chapter.

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12. Carl Seashore, D. Lewis, and J. Saetveit, Seashore Measures of Musical Talents (Chicago: Psychological Corporation, 1956).

The Lincolnwood-Rochester Study[13]

The Lincolnwood-Rochester study was designed to investigate the relationships of MAP subtest, total test, and composite test scores to seven important aspects of students' musical behavior of common concern to the elementary general music teacher. The subjects included 364 elementary school students enrolled in grades four through six in Rochester, Minnesota. A cross-validation study was conducted with 164 fourth grade students and 151 fifth grade students in Lincolnwood, Illinois.

Prior to the administration of the MAP battery, the music teacher rated students (using a seven point scale) on the following seven musical abilities:

Ability 1 - Ability to Sing

Students were classified through the use of dialogue and echo songs.

1 - Poor:	Non-singer
2 - Fair:	Partial singer
3 - Below Average:	Out-of-tune singer (melodic direction)
4 - Average:	Out-of-tune singer (intonation)
5 - Above Average:	Inconsistent singer
6 - Good:	Consistent singer
7 - Excellent:	Musical singer

Ability 2 - Ability to Sing in Parts

Students were classified through the use of part songs, rounds, descants, chants, counter-melodies, combinable songs, and choral accompaniments.

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13. Gordon, Manual, op. cit., 73-79.

1 - Poor:	Non-singer
2 - Fair:	Non-part singer
3 - Below Average:	Out-of-tune part singer (melodic direction)
4 - Average:	Out-of-tune part singer (intonation)
5 - Above Average:	Inconsistent part singer
6 - Good:	Consistent part singer
7 - Excellent:	Musical part singer

Ability 3 - Ability to Perform with a Consistent Tempo

Students were classified through the use of melodic and rhythmic activities.

1 - Poor:	Lacks a command of tempo
2 - Fair:	Lacks a consistent command of tempo
3 - Below Average:	Consistently rushes and slows the tempo
4 - Average:	Consistently rushes or slows the tempo
5 - Above Average:	Performs sometimes with consistent tempo
6 - Good:	Performs with consistent tempo
7 - Excellent:	Performs musically with consistent tempo

Ability 4 - Ability to Comprehend Meter

Students were classified through the use of rhythmic echos, rounds, rondos, and chants.

1 - Poor:	Lacks a command of meter
2 - Fair:	Lacks a consistent command of meter
3 - Below Average:	Performs sometimes in either duple or triple meter
4 - Average:	Performs sometimes in both duple or triple meter
5 - Above Average:	Performs in either duple or triple meter
6 - Good:	Performs in both duple and triple meter
7 - Excellent:	Performs musically in both meters