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A SURVEY OF MUSIC KNOWLEDGE IN THE ELEMENTARY PUBLIC SCHOOLS OF MONTANA

by

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for the degree of

Master of Music

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1961

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M. E. W.

## TABLE OF CONTENTS

CHAPTER	PAGE
I. THE PROBLEM . . . . .	1
1. Introduction . . . . .	1
2. Statement of the problem . . . . .	3
3. Delimitations of the study . . . . .	4
4. Limitations inherent in the study . . . . .	4
5. Definition of terms . . . . .	5
6. Major assumptions . . . . .	5
7. Value of the study . . . . .	5
8. Procedures . . . . .	6
II. REPORT OF THE FINDINGS . . . . .	8
1. Data on sections of the test . . . . .	8
2. Correlations between the tests . . . . .	9
3. Data on musical instruments played . . . . .	13
a. Frequency of instruments played . . . . .	13
b. Relationship of players to non-players	15
c. Comparison of piano to total instruments played . . . . .	30
4. Data on total scores with their means . . . . .	34
III. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS . . . . .	46
1. Suggested areas for further study . . . . .	52
BIBLIOGRAPHY . . . . .	56

CHAPTER	PAGE
APPENDIX . . . . .	58
LISTING OF MEANS BY CITY AND SCHOOL . . . . .	58
1. Fourth grade - first-class districts . . . . .	58
2. Fourth grade - second-class districts . . . . .	59
3. Fourth grade - third-class districts . . . . .	60
4. Sixth grade - first-class districts . . . . .	61
5. Sixth grade - second-class districts . . . . .	62
6. Sixth grade - third-class districts . . . . .	63
LISTING OF INSTRUMENTS PLAYED . . . . .	64
1. First-class districts - fourth grade . . . . .	64
2. First-class districts - sixth grade . . . . .	65
3. Second-class districts - fourth grade . . . . .	66
4. Second-class districts - sixth grade . . . . .	66
5. Third-class districts - fourth grade . . . . .	67
6. Third-class districts - sixth grade . . . . .	67
DIRECTIONS FOR ADMINISTERING TEST . . . . .	68
TEST SAMPLE . . . . .	74

## LIST OF TABLES

TABLE	PAGE
I. Mean and Standard Deviation for Test Sections . . . . .	9
II. Correlations Between Tests and Their Standard Error . .	11
III. Correlation Coefficients in Order of Size . . . . .	12
IV. Distribution of Instrumental Players by Grades and Instruments . . . . .	14
V. Distribution and Per Cent of Instrumental Sections for Orchestra and Band . . . . .	15
VI. Distribution and Percentage of Players and Non- Players, First-Class Districts . . . . .	16
VII. Distribution and Percentage of Players and Non- Players, Second-Class Districts . . . . .	16
VIII. Distribution and Percentage of Players and Non- Players, Third-Class Districts . . . . .	17
IX. Distribution and Percentage of Players and Non- Players by Districts . . . . .	18
X. Distribution and Percentage of Players and Non- Players by Districts and Grades . . . . .	19
XI. Distribution and Percentage of Players and Non- Players by Grade . . . . .	19
XII. Distribution and Percentage of Players by Districts . .	20
XIII. Distribution and Percentage of Players by City, Grade and District . . . . .	21

TABLE	PAGE
XIV. Distribution and Percentage of Players and Non- Players in Billings - Fourth Grade . . . . .	23
XV. Distribution and Percentage of Players and Non- Players in Billings - Sixth Grade . . . . .	24
XVI. Percentage of Players by Grade in Billings and Amount of Difference in Percentage . . . . .	25
XVII. Distribution and Percentage of Players and Non- Players in Kalispell - Fourth Grade . . . . .	26
XVIII. Distribution and Percentage of Players and Non- Players in Kalispell - Sixth Grade . . . . .	26
XIX. Percentage of Players by Grade in Kalispell and Amount of Difference in Percentage . . . . .	27
XX. Distribution and Percentage of Players and Non- Players in Laurel - Fourth Grade . . . . .	27
XXI. Distribution and Percentage of Players and Non- Players in Laurel - Sixth Grade . . . . .	28
XXII. Percentage of Players by Grade in Laurel and Amount of Difference in Percentage . . . . .	28
XXIII. Distribution and Percentage of Players and Non- Players in Hamilton - Fourth Grade . . . . .	29
XXIV. Distribution and Percentage of Players and Non- Players in Hamilton - Sixth Grade . . . . .	29
XXV. Percentage of Players by Grade in Hamilton and Amount of Difference in Percentage . . . . .	29



TABLE	PAGE
XXVI. Distribution and Percentage of Piano to Total Instruments Played for Fourth Grade . . . . .	31
XXVII. Distribution and Percentage of Piano to Total Instruments Played for Sixth Grade . . . . .	32
XXVIII. Percentage of Piano to Total Instruments Played by Grade . . . . .	33
XXIX. Percentage of Piano to Total Instruments Played by Grade and District . . . . .	33
XXX. Total and Per Cent of Tests Given by Districts and Grades . . . . .	34
XXXI. Means of Total Scores for Both Grades, First- Class Districts . . . . .	35
XXXII. Means of Total Scores for Both Grades, Second- Class Districts . . . . .	37
XXXIII. Means of Total Scores for Both Grades, Third- Class Districts . . . . .	37
XXXIV. Improvement of Mean from Fourth To Sixth Grades . . .	39
XXXV. Comparison of Means in Billings . . . . .	41
XXXVI. Improvement of Mean from Fourth to Sixth Grades in Billings . . . . .	41
XXXVII. Comparisons of Means in Kalispell . . . . .	42
XXXVIII. Improvement of Mean from Fourth to Sixth Grades in Kalispell . . . . .	42
XXXIX. Comparison of Means in Laurel . . . . .	43

TABLE	PAGE
XL. Improvement of Mean from Fourth to Sixth Grades in Laurel . . . . .	43
XLI. Comparison of Means in Hamilton . . . . .	44
XLII. Improvement of Mean from Fourth to Sixth Grades in Hamilton . . . . .	44
XLIII. Comparison and Improvement in Means by Cities for Fourth and Sixth Grades . . . . .	45

LIST OF FIGURES

FIGURE	PAGE
1. Means of Fourth and Sixth Grades Arranged by Districts . . . . .	36
2. Comparison of Improvement of Mean from Fourth to Sixth Grades Arranged by Districts . . . . .	38

## CHAPTER I

### THE PROBLEM

1. Introduction. During the past fifteen or twenty years, the trend within the arts moved very definitely toward the enhancing of an appreciation for the arts and for music, in particular.

This came as a result of the recognition of the value of motivation as a valid basis for promoting learning in all subject matter areas, particularly at the elementary level. Interior motivation was easily recognized as intrinsic as opposed to exterior motivation.<sup>1</sup>

The teaching of music, being of a specialized nature, presented problems to administrators who tried to staff with classroom teachers who felt competent in music teaching. The teacher shortage of the war years made this task impossible.

With the shortage of qualified teachers, it was easy and inevitable for some administrators to be convinced that possibly the theory and skills of music could be beyond any student but the talented, and that it would seem wise to teach from the surface of music rather than to pursue any of its techniques.

Concurrent with staffing problems, there arose exponents of the theory that the learning of the skills of music detracted from its

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<sup>1</sup>National Education Association, "Fostering Mental Health in our Schools," 1950 Yearbook (Washington, D. C.: Association for Supervision and Curriculum Development), p. 174.

appreciation and made its learning distasteful. As a result, many music educators abandoned the challenges of the substance of music learning for the veneer. The exterior of music, it was claimed, preserved the joy of music. Music classes became activity classes which gave variety to the daily schedule.

The appreciation approach to music makes a good initiation to music learning. Children of primary school level find it exciting and rewarding. Rote learning is not objectionable to them.

At the intermediate level, children develop more facility with the expression of their ideas and hold more to thought processes. Music reading draws the student into the structure of the music and supplies meaningful experiences as to its form.<sup>2</sup> The use of music skills, as an outgrowth of music understanding, provides dynamic knowledge of what music is as opposed to vicarious discussion and listening to music. When the emphasis is on the understanding of music as it is learned, the satisfactions of it are enhanced many times beyond the capacity of a mere activity. In many schools, however, music understanding and the skills of music reading have been withheld from students.

At the junior high school level, a large part of the music curriculum requires a background in music reading. The general music teacher finds himself with classes of appreciation-wise but untrained students. The teacher must teach by rote, conveying the sounds for the student to mimic and memorize. This is laborious, inefficient, and unnecessary. The junior high school student loses interest and many times becomes a discipline problem. Since music is elected at senior high

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<sup>2</sup>Ibid., p. 176.

level, many members have to be recruited and appealed to with non-music motives.

2. Statement of the problem. The purpose of this study is to compare the learned music skills of sixteen school districts and to make recommendations based on the findings to strengthen the music program.

The problem involves the need for factual information concerning the music knowledge that is acquired at the elementary public school level in the State of Montana. The music knowledge surveyed is the factual information of music fundamentals which forms a foundation for music skills and understanding.

The areas of the skills to be examined are:

1. Note reading
  - a. syllables
  - b. numbers
  - c. intervals
2. Key names
3. Names of lines and spaces
4. Note and rest values
5. Time signatures
6. Music symbols
7. Visual recognition of songs

The incidence of the learning of a musical instrument as a contributor to music knowledge is tabulated.

Also considered is the possible correlation in learning success between the areas of the test.

3. Delimitations of the study. This study was limited to fourth

and sixth year students in selected public schools of Montana. The schools selected were divided between first, second, and third-class districts, spaced over the State geographically as evenly as density of population merited. The test was given during the month of May, 1958.

The invitation to participate was extended only to superintendents, who were requested to name one person in the school system to direct the testing. To the knowledge of the investigator, this person was a director of music in most instances. All scoring was done by the investigator.

4. Limitations inherent in the study. The most obvious limitation of this study was revealed at the outset. Some schools declined to participate on the claim of too poor a music program to merit testing or to make an adequate showing. Of schools which agreed to participate, some did not return the tests. In essence, the schools tested were selected by themselves and most likely on the basis of the schools' abilities to achieve satisfactorily. As a result, no claim could be made that the schools tested are typical of the schools of Montana. Some schools do not teach skills before the fifth grade. However, the sixth grade achievement would indicate if skills are taught.

The inherent weakness of student response to a school's work, tests, etc., generally, periodically, or at the time of testing limits the validity of the student responses to the test.

There is always the limitation of how successfully a single test can measure the achievement of the students.

To respond silently to music on a written test, without the inspiring effect of outer hearing would be difficult for many fourth and sixth grade children. Testing by musical rather than by written

response would be more accurate, but this would be difficult to measure for a study.

5. Definition of terms. City has been used for all the localities cooperating in this study and has no significance regarding the size of the localities.

Music skills does not imply that music skills should be learned as an isolated activity, nor that they can be learned successfully separate from music materials. The investigator does recognize that music skills are learned as outgrowths of the study of music materials.

6. Major assumptions. The investigator assumes that music skills may be learned at the elementary school level as successfully as other subjects in the basic curriculum.

It is believed that the results of the tests show varied attainments in music knowledge coming from areas similar in size, location, and financial support.

It is further assumed that if the elementary school supplies the student with the knowledge and tools with which to do music, his future music studies will progress satisfactorily, since the necessary music foundation requisites to further music study will have been acquired.

7. Value of the study. In this day and viewing the apparent future, the teaching of music in public education is as necessary as the basic curriculum. It is believed that this study can show to what extent music is being taught successfully in the classrooms of the public schools.

This study can be helpful to educators. Knowledge of what the average child can be expected to learn musically at a particular



maturity level makes possible more realistic curriculum planning.

As our society becomes even more complex and the pressures of every day living become greater, the necessity for diversion and release from tensions brings to the fore the capacity of the arts to rectify and renew.

To maintain our culture is not enough unless our culture enriches our lives. The universality of music makes it one of the most social of the arts; and its enrichment adds breadth to the scope of a person's life. With the greater amounts of time available to a person to use in his own manner, it is imperative that there be desirable avenues at his disposal. The magnitude of the enrichment of music is in direct line with our capacities to use it.

8. Procedures. The test used was compiled by the investigator in lieu of a commercial product. The available commercial achievement tests were found to range from fourth grade level to the twelfth and had many items too difficult for fourth and sixth grade children. Also, they would have been more expensive than the test used.

The sample test shown in the Appendix is a diagnostic achievement test. The possible scores in each of the eight tests vary because of the content of the particular test. The possible total score was 124. Tests 1A and 1B utilized skills in reading through the use of syllables and scale numbers respectively. Each child's better score was recorded as the best indication of his note reading ability, and the other score was discarded.

The scores for each test were listed by district, city, school, and grade. The instruments played were listed in code numbers. These

data were punched onto I. B. M. cards, and correlation coefficients were established by way of the 650 I. B. M. machine. The high and low standard error of the correlation coefficients were figured by Dr. Howard E. Reinhardt, Assistant Professor of Mathematics, Montana State University. A mean was also figured along with the amount of standard deviation for each test mean by the 650 I. B. M. machine.

The I. B. M. cards were sorted to establish a count and classification of the instruments played in the district, city, school, and grade categories.

By way of the total score for each test, a mean was established for each of the four categories mentioned.

## CHAPTER II

### REPORT OF THE FINDINGS

1. Data on sections of the test. For these data, 4,002 individual scores were used, and the means and standard deviations were computed by a 650 I. B. M. machine.<sup>3</sup>

On Table I is shown the possible score on each of the tests and the mean for each. For purposes of rating them, the per cent each mean was of each possible score was figured by the investigator. Test 4, Letter Names, was the highest with 18.91 of a possible score of 25. Test 1, Note Reading, which was by syllables or numbers, was second with a mean of 10.93 of a possible 16 score. A close third was Test 6, Time Signatures, with a mean of 10.11 of a 15 possible score. Lowest was Test 2, Intervals, with 2.5 as the mean of a possible score of 10.

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<sup>3</sup>Leona E. Tyler, The Psychology of Human Differences (Boston: D. Appleton-Century Company, 1947), p. 246.

TABLE I  
MEAN AND STANDARD DEVIATION FOR TEST SECTIONS

Test Number	Test Name	Possible Score	Mean	Per cent of Score	Rank	Standard Deviation
1	Note Reading	16	10.93	68.3	2	5.46
2	Intervals	10	2.50	25.0	8	4.04
3	Key Names	10	5.06	50.6	5	3.79
4	Letter Names	25	18.91	75.7	1	7.99
5	Notes & Rest Values	18	8.28	46.0	7	5.42
6	Time Signatures	15	10.11	67.4	3	4.04
7	Symbols	20	12.01	60.1	4	6.44
8	Song Recognition	10	4.77	47.7	6	3.34

2. Correlations between the tests. Correlations between each of the eight tests were calculated by the 650 I. B. M. machine. All correlation coefficients which are shown on Table II are positive, which means that there was a tendency for high scores on one test to be accompanied by high scores on the other test, with which it was being correlated. The correlation coefficient is any value between -1.00 through .00 to a plus 1.00.

The numerical size of the coefficient tells how close the relationship is between the two tests measured, as in this study.<sup>4</sup> There is a high degree of relationship if the number approaches either 1.00 or -1.00. It must be noted that the significance and usefulness of a

<sup>4</sup>Ibid., p. 247.

correlation coefficient increase much more rapidly than the coefficient's absolute size, so a correlation of .60 does not indicate three times the relationship as a correlation of .20.<sup>5</sup>

Also shown on Table II are the standard errors of the correlation coefficients to adjust the possibilities of chance differences.<sup>6</sup>

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<sup>5</sup>Ibid., p. 248.

<sup>6</sup>Wilfred J. Dixon and Frank J. Massey, Jr., Introduction to Statistical Analysis (New York: McGraw-Hill Book Company, 1957), p. 200.

TABLE II

CORRELATIONS BETWEEN TESTS AND THEIR STANDARD ERROR

Test Nos.	Test Names	Correlation Coefficient	Standard Error*	
			Low	High
1-2	Note Read & Intervals	.169	.156	.177
1-3	Note Read & Key Names	.553	.544	.558
1-4	Note Read & Ltr. Names	.524	.516	.529
1-5	Note Read & N & R Val.	.400	.392	.410
1-6	Note Read & Time Sig.	.285	.278	.296
1-7	Note Read & Symbols	.385	.375	.392
1-8	Note Read & Song Rec.	.252	.239	.259
2-3	Intervals & Key Names	.235	.225	.245
2-4	Intervals & Ltr. Names	.162	.149	.168
2-5	Intervals & N & R Val.	.270	.259	.278
2-6	Intervals & Time Sig.	.196	.187	.206
2-7	Intervals & Symbols	.259	.251	.267
2-8	Intervals & Song Rec.	.224	.216	.237
3-4	Key Names & Ltr. Names	.493	.486	.500
3-5	Key Names & N & R Val.	.445	.438	.454
3-6	Key Names & Time Sig.	.270	.259	.278
3-7	Key Names & Symbols	.338	.327	.344
3-8	Key Names & Song Rec.	.313	.306	.322
4-5	Ltr. Names & N & R Val.	.453	.446	.461
4-6	Ltr. Names & Time Sig.	.406	.398	.413
4-7	Ltr. Names & Symbols	.508	.500	.516
4-8	Ltr. Names & Song Rec.	.281	.273	.291
5-6	N & R Val. & Time Sig.	.378	.371	.389
5-7	N & R Val. & Symbols	.515	.507	.523
5-8	N & R Val. & Song Rec.	.258	.251	.267
6-7	Time Sig. & Symbols	.705	.700	.709
6-8	Time Sig. & Song Rec.	.426	.419	.433
7-8	Symbols & Song Rec.	.449	.433	.451

\*The Standard Error of the Correlation Coefficient figures were computed by Dr. Howard E. Reinhardt, Assistant Professor of Mathematics, Montana State University.

Table III shows that Tests 6 and 7, Time Signatures and Symbols, have the highest amount of correlation with .705. The next eleven correlations range from .400 to .553; and the first four of these were: Note Reading and Key Names, .553; Note Reading and Letter Names, .524; Note and Rest Values and Symbols, .515; and Letter Names and Symbols, .508.

TABLE III  
CORRELATION COEFFICIENTS IN ORDER OF SIZE

Test Nos.	Test Names	
6-7	Time Signatures & Symbols	.705
1-3	Note Reading & Key Names	.553
1-4	Note Reading & Letter Names	.524
5-7	Note & Rest Values & Symbols	.515
4-7	Letter Names & Symbols	.508
3-4	Key Names & Letter Names	.493
4-5	Letter Names & Note & Rest Values	.453
7-8	Symbols & Song Recognition	.449
3-5	Key Names & Note & Rest Values	.445
6-8	Time Signatures & Song Recognition	.426
4-6	Letter Names & Time Signatures	.406
1-5	Note Reading & Note & Rest Values	.400
1-7	Note Reading & Symbols	.385
5-6	Note & Rest Values & Time Signatures	.378
3-7	Key Names & Symbols	.338
3-8	Key Names & Song Recognition	.313
1-6	Note Reading & Time Signatures	.285
4-8	Letter Names & Song Recognition	.281
2-5	Intervals & Note & Rest Values	.270
3-6	Key Names & Time Signatures	.270
2-7	Intervals & Symbols	.259
5-8	Note & Rest Values & Song Recognition	.258
1-8	Note Reading & Song Recognition	.252
2-3	Intervals & Key Names	.235
2-8	Intervals & Song Recognition	.224
2-6	Intervals & Time Signatures	.196
1-2	Note Reading & Intervals	.169
2-4	Intervals & Letter Names	.162

3. Data on musical instruments played. a. Frequency of Instruments played. The musical instruments played were divided into band and orchestral sections. Instruments not included in one of the sections were: the piano, the organ, and the accordion. Most of the social instruments were harmonicas; others were the guitar, the banjo, and the flutophone.

Of the total of 4,002 students tested, 1,520 played at least one instrument. Thus, 2,482 students did not play an instrument. When there was more than one instrument played, the first one listed was selected for comparison purposes. Of the total students playing an instrument, 17.6 per cent played a woodwind. Clarinets were played by 12.9 per cent of all students playing an instrument.

The brass instruments composed 14.5 per cent of all instruments played, and the trumpet players were 6.4 per cent of all students playing instruments. The cornet was played by 4.1 per cent of all the students who played instruments.

The strings made up 9.4 per cent of the total instruments played; the violin was played by 8.3 per cent of those who played instruments.

Four per cent of all instruments played were of the percussion section. All of these were the drum, except for one bell.

The orchestra and band instruments as a group composed 45.5 per cent of all the instruments played. The piano was played by 43.4 per cent of all the students who played instruments.



TABLE IV  
DISTRIBUTION OF INSTRUMENTAL PLAYERS BY GRADES AND INSTRUMENTS

Instruments	1st-Class Districts		2nd-Class Districts		3rd-Class Districts		Total Insts.	Per Cent of Total Insts.
	4th	6th	4th	6th	4th	6th		
Violin	58	63	0	5	0	0	126	8.3
Viola	0	3	0	0	0	0	3	0.2
Cello	4	5	0	0	0	0	9	0.6
String Bass	1	2	0	0	0	0	3	0.2
Harp	1	0	0	0	0	0	1	0.1
<b>Total Strings</b>	<b>64</b>	<b>73</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>142</b>	<b>9.4</b>
Flute	14	16	6	5	0	2	43	2.8
Clarinet	40	105	7	28	5	11	196	12.9
Saxophone	4	15	1	5	0	4	29	1.9
<b>Total Woodwinds</b>	<b>59</b>	<b>136</b>	<b>14</b>	<b>38</b>	<b>5</b>	<b>17</b>	<b>268</b>	<b>17.6</b>
Horn	0	4	0	0	1	2	7	0.46
E <sup>b</sup> Alto Horn	0	3	0	2	0	0	5	0.33
Bass Horn	0	1	0	0	0	0	1	0.07
Trombone	5	24	0	8	0	2	39	2.57
Trumpet	26	51	1	9	2	9	98	6.45
Cornet	8	30	3	19	1	1	62	4.08
Baritone	1	2	0	1	0	1	5	0.33
Tuba	0	3	0	1	0	0	4	0.26
<b>Total Brass</b>	<b>40</b>	<b>118</b>	<b>4</b>	<b>40</b>	<b>4</b>	<b>15</b>	<b>221</b>	<b>14.5</b>
Drum	10	29	1	13	0	7	60	3.9
Bell	0	1	0	0	0	0	1	0.1
<b>Total Percussion</b>	<b>10</b>	<b>30</b>	<b>1</b>	<b>13</b>	<b>0</b>	<b>7</b>	<b>61</b>	<b>4.0</b>
Piano	260	240	66	52	20	21	659	43.4
Organ	4	2	0	2	2	1	11	0.7
Accordion	49	29	7	9	3	1	98	6.5
Social Instruments	21	14	19	5	0	1	60	3.9
<b>Grand Totals</b>	<b>506</b>	<b>642</b>	<b>111</b>	<b>164</b>	<b>34</b>	<b>63</b>	<b>1,520</b>	<b>100.0</b>

TABLE V  
DISTRIBUTION AND PER CENT OF INSTRUMENTAL SECTIONS  
FOR ORCHESTRA AND BAND

Instruments	Number	Per Cent of Total
Strings	142	9.4
Woodwinds	268	17.6
Brass	221	14.5
Percussion	61	4.0
<b>Totals</b>	<b>692</b>	<b>45.5</b>
Other Instruments	828	54.5
<b>Grand Totals</b>	<b>1,520</b>	<b>100.0</b>

b. Relationship of players to non-players. Approximately one-third (31.0 per cent) of the fourth graders tested played at least one instrument (Tables X and XI). This two to one ratio was also true in each of the sizes of school districts.

For the sixth grade, 45.7 per cent played at least one instrument. The sixth grades in the third-class districts outdistanced the other sixth grades with 60.6 per cent playing (Tables IX and X). Next, was the second-class district schools with 49.1 per cent; and 43.9 per cent of the first-class districts played at least one instrument.

Of all cities tested, Broadview had the highest percentage of players. The fourth grade had 85.7 per cent (Table VIII). The sixth grade at Denton had 81.8 per cent. Broadview's sixth grade was the third highest with 80.0 per cent. The lowest per cent of players was the fourth grade at Cascade with 5.9 per cent. These are all from third-class

district schools.

TABLE VI  
DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
FIRST-CLASS DISTRICTS

Class of District	Grade	City	Non-Players	Players	Total	Per Cent Who Play
First	4	Billings	700	335	1,035	32.4
		Helena	199	61	260	23.5
		Kalispell	111	74	185	40.0
		Bozeman	138	36	174	20.7
Totals			1,148	506	1,654	30.6
First	6	Billings	456	379	835	45.4
		Helena	169	76	245	31.0
		Kalispell	97	101	198	51.0
		Bozeman	99	86	185	46.5
Totals			821	642	1,463	43.9

TABLE VII  
DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
SECOND-CLASS DISTRICTS

Class of District	Grade	City	Non-Players	Players	Total	Per Cent Who Play
Second	4	Laurel	96	45	141	31.9
		Sidney	78	37	115	32.2
		Hamilton	58	29	87	33.3
Totals			232	111	343	32.4
Second	6	Laurel	70	55	125	44.0
		Sidney	64	43	107	40.2
		Hamilton	23	48	71	67.6
		White Sulphur Springs	13	18	31	58.1
Totals			170	164	334	49.1

TABLE VIII  
 DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
 THIRD-CLASS DISTRICTS

Class of District	Grade	City	Non-Players	Players	Total	Per Cent Who Play
Third	4	Park City	10	9	19	47.4
		Custer	12	0	12	00.0
		Denton	5	7	12	58.3
		Cascade	16	1	17	5.9
		Broadview	1	6	7	85.7
		Manhattan	18	8	26	30.8
		Winnett	8	3	11	27.3
<b>Totals</b>			70	34	104	32.7
Third	6	Stanford	4	12	16	75.0
		Denton	4	18	22	81.8
		Cascade	9	12	21	57.1
		Broadview	1	4	5	80.0
		Manhattan	14	15	29	51.7
		Winnett	9	2	11	18.2
<b>Totals</b>			41	63	104	60.6

District-wise, the third-class districts had 46.6 per cent playing (Tables IX and X). Again the second-class districts followed with 40.6 per cent. Of all the first-class district students tested, 36.8 per cent played at least one instrument.

TABLE IX  
DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
BY DISTRICTS

Class of District	Grade	Non-Players	Players	Total	Per Cent Who Play
First	4	1,148	506	1,654	30.6
	6	821	642	1,463	43.9
Totals		1,969	1,148	3,117	36.8
Second	4	232	111	343	32.4
	6	170	164	334	49.1
Totals		402	275	677	40.6
Third	4	70	34	104	32.7
	6	41	63	104	60.6
Totals		111	97	208	46.6

TABLE X  
DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
BY DISTRICTS AND GRADES

Class of District	Grade	Non-Players	Players	Total	Per Cent Who Play
First	4	1,148	506	1,654	30.6
Second	4	232	111	343	32.4
Third	4	70	34	104	32.7
Totals		1,450	651	2,101	31.0
First	6	821	642	1,463	43.9
Second	6	170	164	334	49.1
Third	6	41	63	104	60.6
Totals		1,032	869	1,901	45.7

TABLE XI  
DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
BY GRADE

Grade	Non-Players	Players	Total	Per Cent Who Play
Fourth	1,450	651	2,101	31.0
Sixth	1,032	869	1,901	45.7
Totals	2,482	1,520	4,002	38.0

Of the total of 1,520 players of musical instruments, nearly one-half (47.0 per cent) were in Billings (Table XIII). Next came 11.5 per cent at Kalispell, 9.0 per cent at Helena and 8.0 per cent at Bozeman. Three-fourths or 75.5 per cent of the players were from first-class districts (Table XII).

TABLE XII  
DISTRIBUTION AND PERCENTAGE OF PLAYERS BY DISTRICTS

Districts	Number of Players	Per Cent Who Play
First-Class	1,148	75.5
Second-Class	275	18.1
Third-Class	97	6.4
Totals	1,520	100.0

TABLE XIII  
 DISTRIBUTION AND PERCENTAGE OF PLAYERS  
 BY CITY, GRADE, AND DISTRICT

Class of District	City	Fourth Grade	Sixth Grade	Both Grades	Per Cent Who Play
First	Billings	335	379	714	47.0
	Helena	61	76	137	9.0
	Kalispell	74	101	175	11.5
	Bozeman	36	86	122	8.0
<b>Totals</b>		506	642	1,148	75.5
Second	Laurel	45	55	100	6.6
	Sidney	37	43	80	5.3
	Hamilton	29	48	77	5.1
	White Sulphur Springs	--	18	18	1.2
<b>Totals</b>		111	164	275	18.1
Third	Stanford	--	12	12	0.8
	Denton	7	18	25	1.6
	Cascade	1	12	13	0.9
	Broadview	6	4	10	0.7
	Manhattan	8	15	23	1.5
	Winnett	3	2	5	0.3
	Custer	0	--	0	0.0
	Park City	9	--	9	0.6
<b>Totals</b>		34	63	97	6.4
<b>Grand Totals</b>		651	869	1,520	100.0



Tables XIV and XV show the percentage of players of instruments in the schools in Billings. The highest fourth grade was Eastern Campus with 84.0 per cent of the students playing an instrument. Grand Avenue was second with 57.0 per cent and Highland was 55.9 per cent. The three lowest were Orchard with 14.3 per cent, Taft with 12.1 per cent and McKinley with 7.1 per cent.

For the sixth grades, Highland had the highest with 61.5 per cent playing an instrument. Broadwater was second with 58.8 per cent and Bench was third with 58.3 per cent. The three lowest for the sixth grades were Miles Avenue with 26.7 per cent, Garfield with 25.5 per cent and Grand Avenue with 22.7 per cent.

TABLE XIV  
DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
IN BILLINGS - FOURTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
Eastern Campus	4	21	25	84.0
Grand Avenue	40	53	93	57.0
Highland	30	38	68	55.9
Rimrock	23	28	51	54.9
Miles Avenue	36	30	66	45.5
Newman	47	28	75	37.3
Burlington	58	27	85	31.8
Washington	61	23	84	27.4
Broadwater	62	22	84	26.2
North Park	48	14	62	22.6
Poly Drive	59	15	74	20.3
Garfield	35	8	43	18.6
Bench	34	7	41	17.1
Hawthorne	26	5	31	16.1
Orchard	42	7	49	14.3
Taft	29	4	33	12.1
McKinley	66	5	71	7.1
Totals	700	335	1,035	32.4

TABLE XV  
 DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
 IN BILLINGS - SIXTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
Highland	20	32	52	61.5
Broadwater	33	47	80	58.8
Bench	20	28	48	58.3
Rimrock	27	34	61	55.7
East Campus	11	12	23	52.2
Orchard	22	22	44	50.0
Washington	29	29	58	50.0
McKinley	23	22	45	48.9
Burlington	28	26	54	48.1
North Park	25	21	46	45.7
Lewis and Clark	49	38	87	43.7
Newman	29	17	46	37.0
Jefferson	17	9	26	34.6
Miles Avenue	33	12	45	26.7
Garfield	73	25	98	25.5
Grand Avenue	17	5	22	22.7
Totals	456	379	835	45.4

Table XVI shows that in Billings, Eastern Campus did not have as high a percentage of players in the sixth as in the fourth grade. The percentage dropped from 84.0 to 52.2. There are many factors that enter into the causes of these differences in percentage, and some are not necessarily bad factors. Highland and Rimrock had good percentages that were at least maintained through the sixth grade.

TABLE XVI  
 PERCENTAGE OF PLAYERS BY GRADE IN BILLINGS  
 AND AMOUNT OF DIFFERENCE IN PERCENTAGE

Schools	Fourth Grade Percentage	Sixth Grade Percentage	Difference in Percentage
McKinley	7.1	48.9	41.8
Bench	17.1	58.3	41.2
Orchard	14.3	50.0	35.7
Broadwater	26.2	58.8	32.6
North Park	22.6	45.7	23.1
Washington	27.4	50.0	22.6
Burlington	31.8	48.1	16.3
Garfield	18.6	25.5	6.9
Highland	55.9	61.5	5.6
Rimrock	54.9	55.7	0.8
Newman	37.3	37.0	-0.3
Miles Avenue	45.5	26.7	-18.8
Eastern Campus	84.0	52.2	-31.8
Grand Avenue	57.0	22.7	-34.3
Per Cent by Grade and Difference	32.4	45.4	13.0

Tables XVII and XVIII show the percentage of players of instruments in the schools in Kalispell. The highest fourth grade was Edgerton with 57.7 per cent of the students playing an instrument. The lowest was Russell with 31.9 per cent. The highest sixth grade was at Russell with 70.0 per cent of the students playing an instrument. Elrod was the lowest with 40.8 per cent.

TABLE XVII

DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
IN KALISPELL - FOURTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
Edgerton	11	15	26	57.7
Elrod	30	20	50	40.0
C. Hedges	38	24	62	38.7
Russell	32	15	47	31.9
Totals	111	74	185	40.0

TABLE XVIII

DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
IN KALISPELL - SIXTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
Russell	12	28	40	70.0
C. Hedges	25	31	56	55.4
Edgerton	18	13	31	41.9
Elrod	42	29	71	40.8
Totals	97	101	198	51.0

TABLE XIX  
 PERCENTAGE OF PLAYERS BY GRADE IN KALISPELL  
 AND AMOUNT OF DIFFERENCE IN PERCENTAGE

School	Fourth Grade Percentage	Sixth Grade Percentage	Difference in Percentage
Russell	31.9	70.0	38.1
C. Hedges	38.7	55.4	16.7
Elrod	40.0	40.8	0.8
Edgerton	57.7	41.9	-15.8
Percent by Grade and Difference	40.0	51.0	11.0

The percentage of players of instruments in the schools of Laurel are shown in Tables XX and XXI. South had 66.7 per cent of its fourth grade students playing instruments, and East was second with 28.3 per cent. East was the highest of the sixth grade students playing an instrument with 50.0 per cent. The lowest was South with 25.0 per cent.

TABLE XX  
 DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
 IN LAUREL - FOURTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
South	6	12	18	66.7
East	66	26	92	28.3
West	24	7	31	22.6
Totals	96	45	141	31.9

TABLE XXI  
DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
IN LAUREL - SIXTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
East	43	43	86	50.0
West	15	8	23	34.8
South	12	4	16	25.0
Totals	70	55	125	44.0

TABLE XXII  
PERCENTAGE OF PLAYERS BY GRADE IN LAUREL  
AND AMOUNT OF DIFFERENCE IN PERCENTAGE

School	Fourth Grade Percentage	Sixth Grade Percentage	Difference in Percentage
East	28.3	50.0	21.7
West	22.6	34.8	12.2
South	66.7	25.0	-41.7
Per Cent by Grade and Difference	31.9	44.0	12.1

Tables XXIII and XXIV give the percentage of players in Hamilton. Washington had a higher percentage in both grades with 38.2 per cent in the fourth grade and 78.1 per cent in the sixth grade.

TABLE XXIII

DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
IN HAMILTON - FOURTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
Washington	21	13	34	38.2
Jefferson	37	16	53	30.2
Totals	58	29	87	33.3

TABLE XXIV

DISTRIBUTION AND PERCENTAGE OF PLAYERS AND NON-PLAYERS  
IN HAMILTON - SIXTH GRADE

School	Non-Players	Players	Total	Per Cent Who Play
Jefferson	16	23	39	59.0
Washington	7	25	32	78.1
Totals	23	48	71	67.6

TABLE XXV

PERCENTAGE OF PLAYERS BY GRADE IN HAMILTON  
AND AMOUNT OF DIFFERENCE IN PERCENTAGE

School	Fourth Grade Percentage	Sixth Grade Percentage	Difference in Percentage
Jefferson	30.2	59.0	28.8
Washington	38.3	33.3	-5.0
Per Cent by Grade and Difference	33.3	67.6	34.3



c. Comparison of piano to total instruments played. Of all students who play an instrument, 43.4 per cent play piano (Table XXIX). Band and orchestra instruments account for a slightly larger percentage of 45.5 per cent (Table V).

In the fourth grade at Winnett and Denton, the only instrument played was the piano (Table XXVI). At Bozeman 83.3 per cent of the students playing instruments played the piano. Hamilton, with 75.9 per cent, and Manhattan, with 75.0 per cent, were in third position, a near tie. Cascade had no fourth grade student playing the piano, and only one fourth grader played any instrument.

In the fourth grades of the first-class district schools, 51.4 per cent of the students who played an instrument played the piano. For the second-class district schools, 59.5 per cent of those playing an instrument played the piano; and 58.8 per cent played piano in the third-class district schools. For all fourth graders playing instruments, a little more than half (53.1 per cent) played the piano (Table XXVIII).

In the sixth grade at Winnett, two students played the piano and no one played any other instrument (Table XXVII). In Manhattan and Bozeman, 53.3 per cent and 51.2 per cent, respectively, played the piano. Billings came next with 40.9 per cent playing the piano of those playing an instrument.

In the sixth grade, the percentages of students playing the piano as their instrument for each of the districts respectively were: 37.4 per cent, 31.7 per cent, and 33.3 per cent (Table XXVII). For all sixth graders playing instruments, 36.0 per cent played the piano (Table XXVIII).

TABLE XXVI

DISTRIBUTION AND PERCENTAGE OF PIANO TO TOTAL INSTRUMENTS  
PLAYED FOR FOURTH GRADE

Class of District	Grade	City	Total Piano	Total Inst.	Per Cent Who Play Piano
First	4	Billings	146	335	43.6
		Helena	45	61	73.8
		Kalispell	39	74	52.7
		Bozeman	30	36	83.3
<b>Totals</b>			260	506	51.4
Second	4	Laurel	30	45	66.7
		Sidney	14	37	37.8
		Hamilton	22	29	75.9
<b>Totals</b>			66	111	59.5
Third	4	Park City	2	9	22.2
		Denton	7	7	100.0
		Cascade	0	1	0.0
		Broadview	2	6	33.3
		Manhattan	6	8	75.0
		Winnett	3	3	100.0
<b>Totals</b>			20	34	58.8

TABLE XXVII  
 DISTRIBUTION AND PERCENTAGE OF PIANO TO TOTAL INSTRUMENTS  
 PLAYED FOR SIXTH GRADE

Class of District	Grade	City	Total Piano	Total Inst.	Per Cent Who Play Piano
First	6	Billings	155	379	40.9
		Helena	21	76	27.6
		Kalispell	20	101	19.8
		Bozeman	44	86	51.2
<b>Totals</b>			240	642	37.4
Second	6	Laurel	17	55	30.9
		Sidney	14	43	32.6
		Hamilton	19	48	39.6
		White Sulphur Springs	2	18	11.1
		<b>Totals</b>			52
Third	6	Stanford	1	12	8.3
		Denton	7	18	38.8
		Cascade	3	12	25.0
		Broadview	0	4	0.0
		Manhattan	8	15	53.3
		Winnett	2	2	100.0
<b>Totals</b>			21	63	33.3

TABLE XXVIII

PERCENTAGE OF PIANO TO TOTAL INSTRUMENTS PLAYED BY GRADE

Grade	Total Piano	Total Inst.	Per Cent Who Play Piano
Fourth	346	651	53.1
Sixth	313	869	36.0
Totals	659	1,520	43.4

TABLE XXIX

PERCENTAGE OF PIANO TO TOTAL INSTRUMENTS PLAYED  
BY GRADE AND DISTRICT

Class of District	Total Piano by Grade		Total Piano	Total Insts.	Per Cent Who Play Piano
	Fourth	Sixth			
First	260	240	500	1,148	43.6
Second	66	52	118	275	42.9
Third	20	21	41	97	42.3
Totals	346	313	659	1,520	43.4

4. Data on total scores with their means. Not all schools provided this survey with test material for both fourth and sixth grades. Stanford and White Sulphur Springs did not give the test to the fourth grade. The test was not given to the sixth grades at Park City and Custer. Bozeman was eliminated for comparison purposes, since it did not provide scores for the second sheet of the test for the fourth grade.

A total of 4,002 tests were scored; 2,101 were from fourth grades and 1,901 represented sixth grades. The per cent of the tests given by schools in first-class districts was 68.9; 25.9 per cent were given by second-class districts; and 5.2 per cent by third-class districts. Nearly the same percentage of fourth graders and sixth graders took the test in each of the school districts.

TABLE XXX  
TOTAL AND PER CENT OF TESTS GIVEN  
BY DISTRICTS AND GRADES

Class of District	Fourth Grade		Sixth Grade		Both Grades	
	Total Tested	Per Cent Tested	Total Tested	Per Cent Tested	Total Tested	Per Cent Tested
First	1,480	70.4	1,278	67.2	2,758	68.9
Second	517	24.6	519	27.3	1,036	25.9
Third	104	5.0	104	5.5	208	5.2
Totals	2,101	100.0	1,901	100.0	4,002	100.0

The highest possible total score for the test was 124. For the fourth grade the highest mean total score was at Billings with 69.3. Other means were: Sidney, 68.0; Hamilton, 66.7; Helena, 65.2; and Kalispell, 64.0. The lowest mean was at Denton with 30.5 (Tables XXXI, XXXII, and XXXIII).

The highest mean score for the sixth grade students was 98.3 at Kalispell. Next in order was Hamilton with 87.1; Billings, 85.5; Sidney, 83.2; Broadview, 82.6; and Winnett with 81.6. The lowest score was 57.5 at Denton.

First-class district schools had the highest mean scores for both fourth and sixth grades with 67.9 and 84.7 of the possible 124 total score (Table XXXI). Second-class district schools were second with 58.5 and 76.0 as their means respectively (Table XXXII). Means of 49.6 and 70.4 respectively were found in third-class district schools (Table XXXIII). The mean for all schools tested for the fourth grade was 65.5. For the sixth grade it was 82.4.

TABLE XXI  
MEANS OF TOTAL SCORES FOR BOTH GRADES  
FIRST-CLASS DISTRICTS

City	Fourth Grade		Sixth Grade	
	Total Tested	Mean	Total Tested	Mean
Helena	260	65.2	245	70.9
Billings	1,035	69.3	835	85.5
Kalispell	185	64.0	198	98.3
Totals	1,480		1,278	
Means		67.9		84.7

First-Class Districts  
Second-Class Districts  
Third-Class Districts

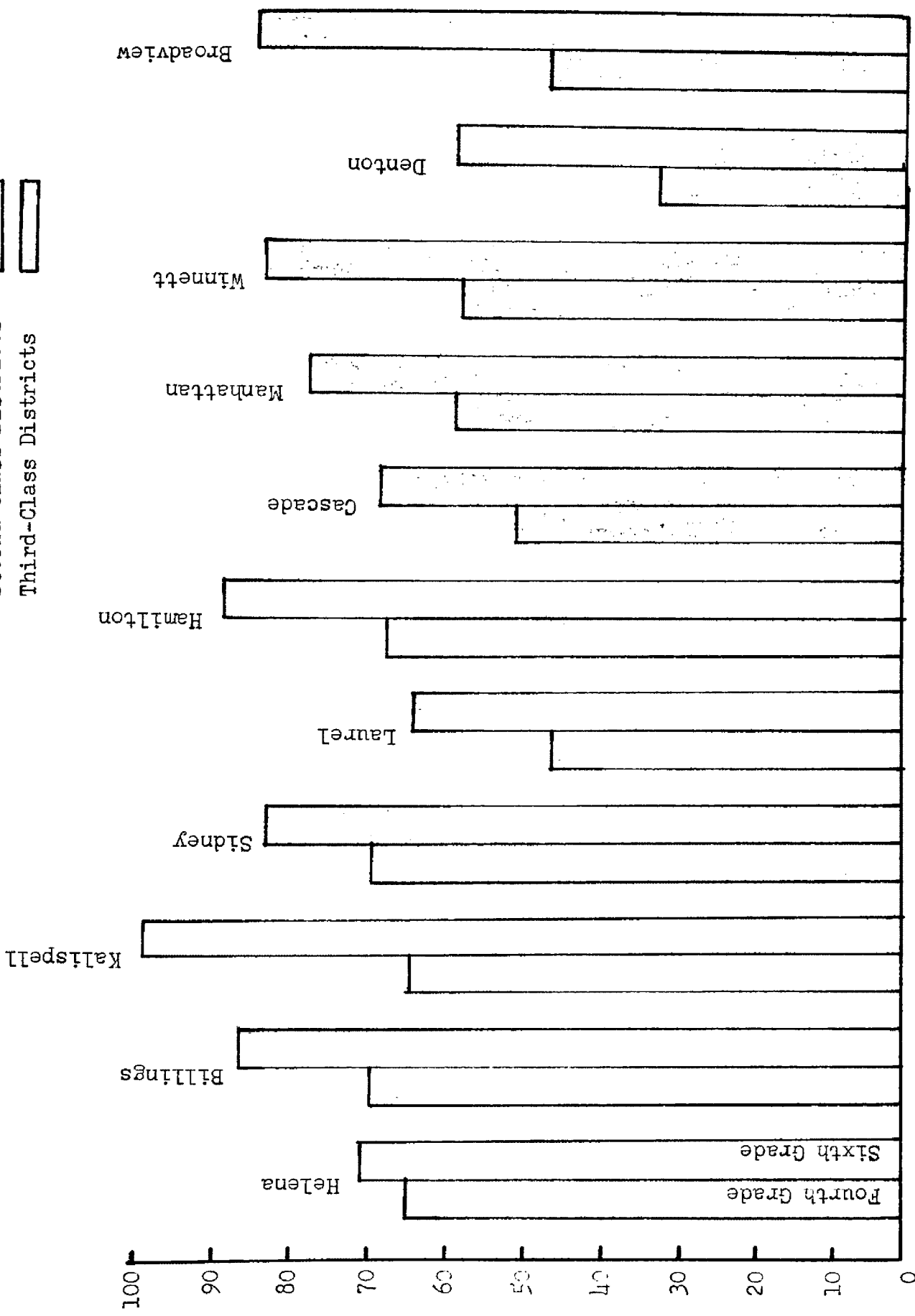


Figure 1. Means of fourth and sixth grades arranged by districts.

TABLE XXXII  
 MEANS OF TOTAL SCORES FOR BOTH GRADES  
 SECOND-CLASS DISTRICTS

City	Fourth Grade		Sixth Grade	
	Total Tested	Mean	Total Tested	Mean
Sidney	115	68.0	107	83.2
Laurel	141	45.8	125	63.6
Hamilton	87	66.7	71	87.1
Totals	343		303	
Means		58.5		76.0

TABLE XXXIII  
 MEANS OF TOTAL SCORES FOR BOTH GRADES  
 THIRD-CLASS DISTRICTS

City	Fourth Grade		Sixth Grade	
	Total Tested	Mean	Total Tested	Mean
Cascade	17	49.8	21	67.3
Manhattan	26	56.5	29	76.0
Winnett	11	57.0	11	81.6
Denton	12	30.5	22	57.5
Broadview	7	44.7	5	82.6
Totals	73		88	
Means		49.6		70.4
All Districts	1,896	65.5	1,669	82.4



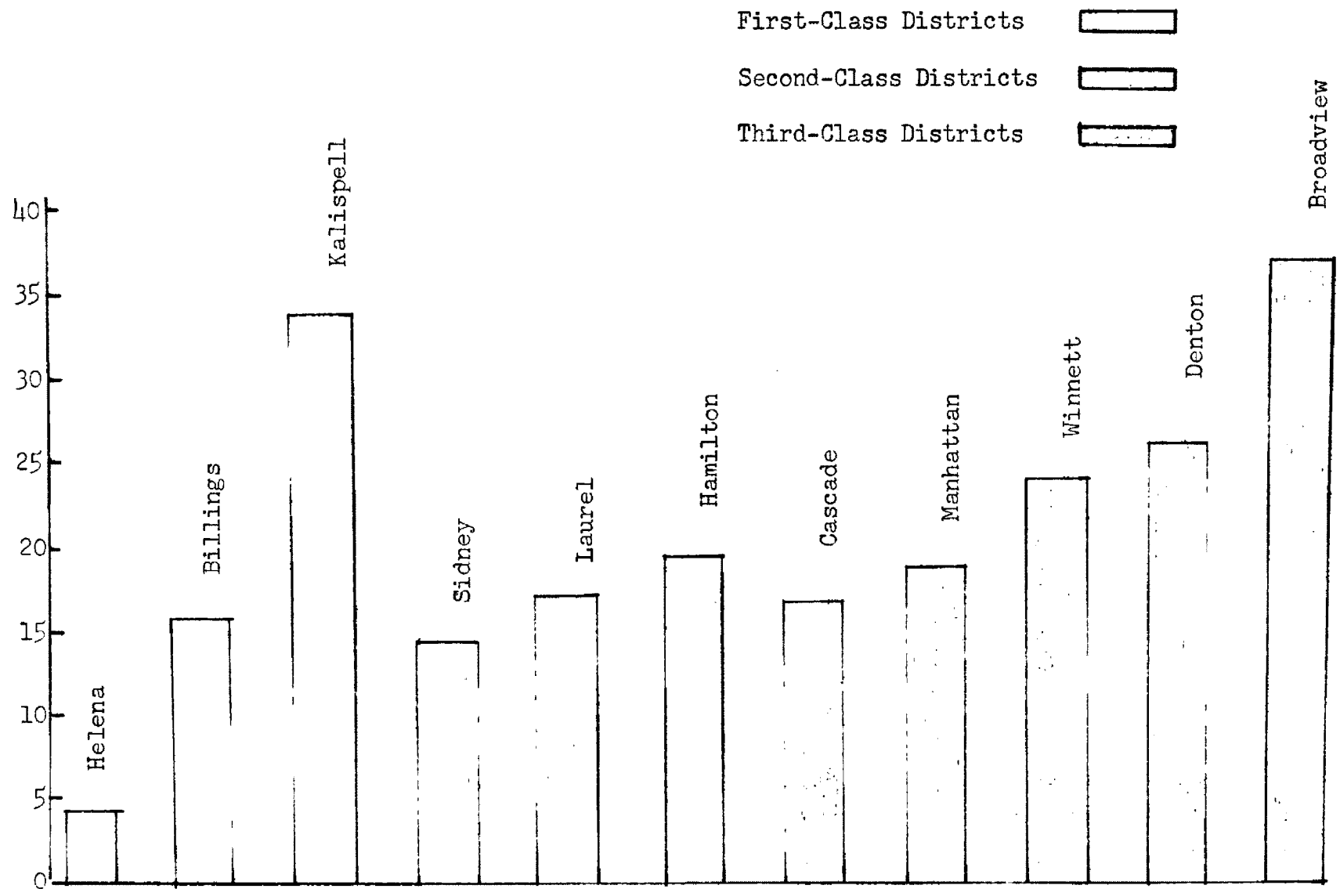


Figure 2. Comparison of improvement of mean from fourth to sixth grades arranged by districts.

Within all school districts and where tests were given to both fourth and sixth grades, sixth grade mean scores were higher than those of the fourth grade. The smallest improvement was at Helena, a first-class district, with an improvement of 5.7 (Table XLIII). The greatest improvement was at Broadview, a third-class district, with an improvement of 37.9. A close second to Broadview was Kalispell, a first-class district, with a 34.3 improvement.

TABLE XXXIV  
IMPROVEMENT OF MEAN FROM FOURTH TO SIXTH GRADES

District	Cities	Improvement
First-Class	Helena	5.7
	Billings	16.2
	Kalispell	34.3
Improvement for District		16.8
Second-Class	Sidney	15.2
	Laurel	17.8
	Hamilton	20.4
Improvement for District		17.5
Third-Class	Cascade	17.5
	Manhattan	19.5
	Winnett	24.6
	Denton	27.0
	Broadview	37.9
Improvement for District		20.8
Improvement of Mean for All Districts		16.9

In a comparison of means by fourth and sixth grades in Billings, the Orchard School was in lowest position or seventeenth position in the fourth grade but was in second position in the sixth grade (Table XXXV). The Bench School was in eleventh position in the fourth grade and in fourth position in the sixth grade. The Burlington School had a ninth position in the fourth grade and a third position in the sixth grade.

A lower position in sixth than in fourth grade was found at the Miles Avenue School where the fourth grade had fourth position and the sixth grade had fifteenth position. The Miles Avenue School's mean was 6.7 lower in the sixth than in the fourth grade (Table XXXVI). The Grand Avenue School showed a fifth position in the fourth grade and an eleventh position in the sixth grade and had only a 2.2 improvement in mean.

TABLE XXXV  
COMPARISON OF MEANS IN BILLINGS

Fourth Grade Schools	Means	Sixth Grade Schools	Means
1. Highland	85.3	1. Highland	109.5
2. Hawthorne	82.6	2. Orchard	101.5
3. Rimrock	81.3	3. Burlington	95.7
4. Miles Avenue	79.6	4. Bench	93.0
5. Grand Avenue	77.2	5. Rimrock	90.6
6. Poly Drive	74.1	6. Lewis and Clark	87.7
7. Broadwater	71.5	7. Broadwater	83.8
8. McKinley	67.1	8. McKinley	83.0
9. Burlington	65.9	9. Eastern Campus	82.3
10. Taft	64.9	10. North Park	80.7
11. Bench	63.5	11. Grand Avenue	79.4
12. Washington	62.5	12. Garfield	78.5
13. Eastern Campus	60.7	13. Newman	76.7
14. Newman	60.5	14. Jefferson	75.2
15. Garfield	59.7	15. Miles Avenue	72.9
16. North Park	59.3	16. Washington	72.3
17. Orchard	54.0		
Mean for Billings	69.3		85.5

TABLE XXXVI  
IMPROVEMENT OF MEAN FROM FOURTH TO SIXTH GRADES IN BILLINGS

School	Improvement	School	Improvement
Orchard	47.5	Newman	16.2
Burlington	29.8	McKinley	15.9
Bench	29.5	Broadwater	12.3
Highland	24.2	Washington	9.8
Eastern Campus	21.6	Rimrock	9.3
North Park	21.4	Grand Avenue	2.2
Garfield	18.8	Miles Avenue	-6.7
Improvement for Billings	16.2		

In a comparison of means for the fourth and sixth grades in Kalispell, the Edgerton had the first position in the fourth grade and the fourth position in the sixth grade in Kalispell's four schools. The greatest improvement in means for both grades was at Elrod with a 40.0 point improvement.

TABLE XXXVII  
COMPARISON OF MEANS IN KALISPELL

Fourth Grade Schools	Means	Sixth Grade Schools	Means
1. Edgerton	72.4	1. C. Hedges	109.6
2. C. Hedges	71.9	2. Elrod	99.2
3. Elrod	59.2	3. Russell	89.9
4. Russell	54.2	4. Edgerton	86.6
Mean for Kalispell	64.0		98.3

TABLE XXXVIII  
IMPROVEMENT OF MEAN FROM FOURTH TO SIXTH GRADES IN KALISPELL

School	Improvement	School	Improvement
Elrod	40.0	Russell	35.7
C. Hedges	37.7	Edgerton	14.2
Improvement for Kalispell	34.3		

In a comparison of means for the fourth and sixth grades in Laurel, East had first position for both grades. East also had the greatest improvement in means for both grades with a 21.2 point improvement.

TABLE XXXIX  
COMPARISON OF MEANS IN LAUREL

Fourth Grade		Sixth Grade	
Schools	Means	Schools	Means
1. East	46.4	1. East	67.6
2. West	46.3	2. South	55.9
3. South	41.8	3. West	53.8
Mean for Laurel	45.8		63.6

TABLE XL  
IMPROVEMENT OF MEAN FROM FOURTH TO SIXTH GRADES IN LAUREL

School	Improvement	School	Improvement
East	21.2	West	7.5
South	14.1		
Improvement for Laurel 17.8			

In comparing the means for both grades at Hamilton, the Washington School had the greater mean over the Jefferson School for both grades. The Jefferson had a slightly larger improvement in mean than the Washington with a 20.3 point improvement.

TABLE XLI  
COMPARISON OF MEANS IN HAMILTON

Fourth Grade Schools	Means	Sixth Grade Schools	Means
1. Washington	71.4	1. Washington	90.9
2. Jefferson	63.6	2. Jefferson	83.9
Mean for Hamilton	66.7		87.1

TABLE XLII  
IMPROVEMENT OF MEAN FROM FOURTH TO SIXTH GRADES IN HAMILTON

School	Improvement	School	Improvement
Jefferson	20.3	Washington	19.5
Improvement for Hamilton 20.4			

TABLE XLIII  
COMPARISON AND IMPROVEMENT IN MEANS BY CITIES  
FOR FOURTH AND SIXTH GRADES

Cities	Fourth Grade	Sixth Grade	Improvement
Billings	69.3	85.5	16.2
Helena	65.2	70.9	5.7
Kalispell	64.0	98.3	34.3
Laurel	45.8	63.6	17.8
Sidney	68.0	83.2	15.2
Hamilton	66.7	87.1	20.4
Denton	30.5	57.5	27.0
Cascade	49.8	67.3	17.5
Broadview	44.7	82.6	37.9
Manhattan	56.5	76.0	19.5
Winnett	57.0	81.6	24.6



## CHAPTER III

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was made to determine the extent of learning and knowledge of music skills in some of the elementary public schools of Montana.

A diagnostic achievement test was compiled by the investigator, because it was more suitable as a test to be given to the elementary level student rather than a commercial product designed for use from the fourth to the twelfth grade.

A selected list of cities was chosen from the three classes of school districts; and a letter was sent to the superintendents inviting the schools to participate in the testing program. Some superintendents complied with the specific request of the investigator that one person be designated to be responsible for the testing within each school system. Some schools did not respond to the invitation; some others declined. A few schools did not return the completed tests.

Students of the fourth and sixth grades were tested. The test consisted of eight sections covering the areas of note reading, names of lines and spaces, note and rest values, key names, time signatures, symbols, and song recognition. Each student was requested to tell whether he played a musical instrument and to name it if he did.

Table I in Chapter II gives the mean of the raw scores for each of the tests. The more easily learned parts of the test: Letter Names,

Note Reading and Time Signatures, Symbols, and Key Names were highest. Certainly, Song Recognition, Note and Rest Values, and Intervals are more difficult to learn. Intervals, however, are usually not taught. That Note Reading should be second highest and Key Names fifth could be difficult to understand. However, the direction sheet did ask that 'do' be given the fourth graders in the Reading test. One criticism of the test by the schools was the crowded format of some of the signatures in the test, thus making it difficult to use placement as a gauge in finding keys. This could be a valid criticism for the fourth graders. The investigator believes that the elementary youngster should be able to construct the key signature.

The correlation coefficients between the test areas, as shown in the second section of this Chapter, were also computed. There was positive correlation shown between all of the tests. The investigator believes that some paired tests such as Note and Rest Values and Song Recognition, Intervals and Song Recognition, and Note Reading and Song Recognition, which did not show significant correlation, generally might be expected to show significant correlation. The direction sheet suggested that fourth graders omit parts or all of tests that were definitely beyond the attainment of the particular student group. The correlations with Song Recognition, therefore, could be thrown askew, but only slightly, since some schools did not give all the test. Bozeman did not give the second sheet of the test to its 174 fourth graders. All but three of Sidney's 222 students tested did not score in Song Recognition. The three were fourth graders. Song Recognition and, in a few instances, other parts of the second sheet were not attempted by

61 students at Lincoln, Hawthorne, and Central Schools in Helena.

On the basis of the experience of the investigator, studying the standard test results of students and the students themselves, the attempts to work scientifically with the scores from standard tests cannot be accurate, since the human element involved cannot be standardized. The investigator, as a teacher, is of the opinion that the correlation of Note and Rest Values and Note Reading with Song Recognition is higher than the computed correlations. Possibly the lower correlation is due to weakness in the testing or the instrument for gathering data.

The investigator feels that the Song Recognition test was considered by the schools to be too difficult for them to do. However, Guster's 12 fourth graders attempted only the Song Recognition test. The investigator recommends that in future testing students do all of the tests. Her own experience has been that students will be able to recognize songs, when they are generally unable to be accurate about the song's structure. She also believes teachers tend to underestimate what children can do.

The third section of Chapter II gives the frequencies of the various musical instruments played and the percentages of students who played, within the school areas tested. Since piano is generally taught by private instruction, data on piano study is shown separately, as well as combined with other instruments.

The data displayed in the fourth section of Chapter II gives the means for the various classes of school districts, city school systems, and school buildings within school systems for both fourth and sixth

grades, and the totals for the two grades. The highest possible score for the test was 124. The number of points possible within each of the test areas varies, since each of the areas has its own testing requirements.

The great preponderance of participating schools from first-class districts was unavoidable. These made up nearly seventy per cent of the total students tested and were from Billings, Helena, Kalispell, and Bozeman. There were also four second-class district cities: Laurel, Sidney, Hamilton, and White Sulphur Springs. Third-class district cities were: Park City, Guster, Stanford, Denton, Cascade, Broadview, Manhattan, and Winnett. Eight of the schools were from third-class districts; they made up only a little over five per cent of the total students tested.

Since a basic assumption of this study was that there would be varied results from classroom to classroom regardless of district, city, school, size, location, or financial support, it follows that this unequal distribution would not be a deterrent to the validity of this study.

Kalispell had a considerable lead over all cities in its sixth grades with a mean of 98.3. The nearest mean to Kalispell's was at Hamilton which had a mean of 87.1 in its sixth grades. Hamilton's fourth grades had a 66.7 mean. Kalispell's fourth grades were fourth highest with a mean of 64.0. The highest mean for fourth grades was 69.3 at Billings, and Billings' sixth grades had a mean of 85.5. From this could be inferred that Kalispell made the greatest progress in its elementary music program with respect to the areas tested.

The greater the improvement in mean between the fourth and sixth grade does, in a sense, indicate progress in music instruction, due to the additional two years of instruction by the end of the sixth grade. However, a greater height of means in both fourth and sixth grades is necessary to show a high level of instruction throughout the entire six years of the elementary school.

Significant in the improvement of means between the fourth and the sixth grades is that the greatest improvement was in the third-class districts which had a 20.8 point improvement. Second-class districts were second with a 17.5 point improvement; first-class districts had a 16.8 point improvement. The greatest improvement of all schools was at Broadview, a third-class district, with a 37.9 point improvement. Kalispell, a first-class district, had 34.3 points improvement. The least improvement was in Helena, a first-class district school, with a 5.7 point improvement in mean.

Lower means in the sixth grade than in the fourth grade are shown in Helena at the Bryant and Hawthorne schools, and at the Miles Avenue School in Billings.

Individual cities can make comparisons within their own schools by using the data in the Appendix of this study.

With 1,520 or 38 per cent of the 4,002 students tested playing at least one instrument, it would seem that there is displayed a public interest in music. The piano was played by 43.4 per cent of the students playing instruments. Next was the clarinet with 12.9 per cent, the violin with 8.3 per cent, the accordion 6.5 per cent, the trumpet 6.4 per cent, the cornet 4.1 per cent, and the drum 3.9 per cent. The

instrumentation seems to the investigator to be a typical distribution of musical instruments played at the elementary level.

A comparison of Tables XII and XXX shows that the percentage of students who play instruments is slightly larger in first and third-class districts than in second-class districts.

Tables XVI, XIX, XXII, and XXV show that the percentages of players of instruments vary greatly from school to school in Billings, Kalispell, Laurel, and Hamilton. In the fourth grades in Billings, the percentage of players ranged from 7.1 per cent to 84.0 per cent, in Kalispell from 31.9 per cent to 57.7 per cent, in Laurel from 22.6 per cent to 66.7 per cent, and in Hamilton from 30.2 per cent to 38.3 per cent.

In the sixth grades in Billings, the percentages of players ranges from 22.7 per cent to 61.5 per cent, in Kalispell from 40.8 per cent to 70.0 per cent, in Laurel from 25.0 per cent to 50.0 per cent, and in Hamilton from 33.3 per cent to 59.0 per cent. These figures indicate the wide variance of student interest and school interest in the playing of musical instruments.

The 14.7 per cent increase in the number of instruments played from the fourth to the sixth grades (31 per cent to 45.7 per cent) seems a satisfactory increase. It must be remembered, however, that of the 31 per cent for the fourth grade, a little more than one-half (53.1 per cent) was piano (Table XXVIII). Of the 45.7 per cent for the sixth grade, a little more than one-third or 36 per cent was piano. The vast amount of piano instruction is carried on by way of private rather than public instruction.

Since it has been established that music can be taught successfully in many varied and unlike situations and localities, it can be said that music content, as displayed in this study, can be learned successfully in the elementary school at the grade levels tested.

1. Suggested areas for further study. This study could be enlarged upon by investigating through the administrative records of the schools tested the academic qualifications and amount of experience in teaching music of the teachers in the fourth and sixth grades tested. This data would be inconclusive by itself, since many more teachers have contributed to the results of this test, but it would contribute its part in adding insight on the way toward better music achievement in public schools.

What it is that makes one classroom succeed and another one not succeed has not been covered in this study and is one that should be made. A study should be made into the teaching, coordinative, and administrative problems of music teaching at the elementary level in Montana.

Since the investigator believes the self-contained classroom is the most effective in the education of the whole personality of the child, the need for adequate, sympathetic, and resourceful administrative assistants in subjects such as music is very important. The amount and kind of training in music, education, psychology, etc., and the personality factors requisite for providing successful assistance to teachers must be the concern of schools of education. A study into the educational and personal factors which contribute to effective coordinators should be made.

A study should be made into the various methods successful teachers have devised which have been effective in teaching of elementary music. Specific approaches and techniques in the areas of ear training, note reading, form, appreciation, creative music, etc., could be made available to classroom teachers, particularly those who are without trained assistants.

A few recommendations for future testing procedures are:

1. There should be an excess of possible answers for each question in the test. This would eliminate some of the choices by deduction.

2. The students should construct some key signatures. A variation in the test structure might be required; however, a different structure could be worked out for the entire test.

3. The same person should give the test throughout a school system. This would give greater uniformity of testing procedure and classroom climate.

4. The Song Recognition test should have more difficult songs or else more songs to recognize. Selections from the commonly used songs in the texts could be used sparingly.

5. The investigator should insist upon use of soft pencils and heavy marking. If an answer is to be changed, complete erasing is absolutely necessary. There should be a caution against marking more than one blank, as this negates the answers. If the test consists of more than one sheet, the name must be placed on both sheets. If the tests become mixed, the total scores would not give individual achievement. Request that they not be stapled together.



6. Two lines should be made of Test 7 - Signs and Symbols. The depth of the answer section taxes the eyes. This was the case in scoring the test and could have been the case for the student.

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## **APPENDIX**

LISTING OF MEANS BY CITY AND SCHOOL

FOURTH GRADE - FIRST-CLASS DISTRICTS

City	School	Total Tested	Total Score	Mean
Billings	Bench	41	2602	63.5
	Broadwater	84	6008	71.5
	Burlington	85	5604	65.9
	Garfield	43	2568	59.7
	Eastern Campus	25	1517	60.7
	Grand Avenue	93	7183	77.2
	Highland	68	5803	85.3
	McKinley	71	4762	67.1
	Newman	75	4540	60.5
	Miles Avenue	66	5254	79.6
	North Park	62	3678	59.3
	Orchard	49	2644	54.0
	Rimrock	51	4147	81.3
	Washington	84	5252	62.5
	Hawthorne	31	2560	82.6
Poly Drive	74	5483	74.1	
Taft	33	2142	64.9	
<b>Totals</b>		<b>1,035</b>	<b>71,747</b>	<b>69.3</b>
Helena	Bryant	49	3014	61.5
	Hawthorne	47	2897	61.6
	Central	29	1641	56.6
	Lincoln	27	1491	55.2
	May Butler	30	2001	67.7
	Old Jefferson	58	5037	86.8
	Broadwater	20	867	43.4
<b>Totals</b>		<b>260</b>	<b>16,948</b>	<b>65.2</b>
Kalispell	C. Hedges	62	4456	71.9
	Elrod	50	2960	59.2
	Russell	47	2547	54.2
	Edgerton	26	1882	72.4
<b>Totals</b>		<b>185</b>	<b>11,845</b>	<b>64.0</b>
<b>Total Tested</b>		<b>1,480</b>		

FOURTH GRADE - SECOND-CLASS DISTRICTS

City	School	Total Tested	Total Score	Mean
Laurel	South	18	753	41.8
	West	31	1435	46.3
	East	92	4270	46.4
<b>Totals</b>		141	6,458	45.8
Sidney	----	115	7,824	68.0
Hamilton	Washington	34	2428	71.4
		53	3371	63.6
<b>Totals</b>		87	5,799	66.7
Bozeman	Emerson	30	1238	41.3
	Longfellow	20	1189	59.4
	Hawthorne	36	1586	44.1
	Whittier	43	2082	48.4
	Irving	45	2074	46.1
<b>Totals</b>		174	8,169	46.9
<b>Total Tested</b>		517		

FOURTH GRADE - THIRD-CLASS DISTRICTS

City	School	Total Tested	Total Score	Mean
Park City	----	19	1,191	62.7
Custer	----	12	35	2.9
Denton	----	12	366	30.5
Cascade	----	17	846	49.8
Broadview	----	7	313	44.7
Manhattan	----	26	1,469	56.5
Winnett	----	11	627	57.0
Total Tested		104		

SIXTH GRADE - FIRST-CLASS DISTRICTS

City	School	Total Tested	Total Score	Mean
Billings	Bench	48	4462	93.0
	Broadwater	80	6705	83.8
	Burlington	54	5167	95.7
	Garfield	98	7697	78.5
	Eastern Campus	23	1892	82.3
	Grand Avenue	22	1747	79.4
	Highland	52	5693	109.5
	Jefferson	26	1956	75.2
	McKinley	45	3735	83.0
	Lewis and Clark	87	7634	87.7
	Newman	46	3528	76.7
	Miles Avenue	45	3281	72.9
	North Park	46	3714	80.7
	Orchard	44	4467	101.5
Rimrock	61	5526	90.6	
Washington	58	4194	72.3	
<b>Totals</b>		<b>835</b>	<b>71,398</b>	<b>85.5</b>
Helena	Bryant	32	1854	57.9
	Hawthorne	49	2970	60.6
	Central	164	12,544	76.5
<b>Totals</b>		<b>245</b>	<b>17,368</b>	<b>70.9</b>
Kalispell	C. Hedges	56	6140	109.6
	Elrod	71	7046	99.2
	Russell	40	3595	89.9
	Edgerton	31	2684	86.6
<b>Totals</b>		<b>198</b>	<b>19,465</b>	<b>98.3</b>
<b>Total Tested</b>		<b>1,278</b>		



SIXTH GRADE - SECOND-CLASS DISTRICTS

City	School	Total Tested	Total Score	Mean
Laurel	South	16	895	55.9
	West	23	1237	53.8
	East	86	5815	67.6
Totals		125	7,947	63.6
Sidney	----	107	8,899	83.2
Hamilton	Washington	32	2908	90.9
	Jefferson	39	3273	83.9
Totals		71	6,181	87.1
Bozeman	Emerson	185	16,103	87.0
White Sulphur Springs	----	31	1,820	58.7
Total Tested		519		

SIXTH GRADE - THIRD-CLASS DISTRICTS

City	School	Total Tested	Total Score	Mean
Stanford	----	16	1,400	87.5
Denton	----	22	1,265	57.5
Cascade	----	21	1,413	67.3
Broadview	----	5	413	82.6
Manhattan	----	29	2,205	76.0
Winnett	----	11	898	81.6
Total Tested		104		

LISTING OF INSTRUMENTS PLAYED, FIRST-CLASS DISTRICTS, FOURTH GRADE

CITY	SCHOOL	NONE	VIO	VLA	CEL	S BS	HARP	FLT	CLAR	SAX	HORN	TROM	COR	E <sup>B</sup> AL	TROM	BAR	B HN	TUBA	DRUM	PERC	PIAN	ORGN	S IN	ACCD	TOTAL
BLGS	BENCH	34	1						2			1									2			1	7
	BROADWATER	62	3		1	1															13	1		3	22
	BURLINGTON	58	4					1	6			3	2		1				1		7		1	1	27
	EASTERN CAMPUS	44	1				1	1	1	1		3				1			2		10				21
	GARFIELD	35			1														3		4				8
	GRAND AVENUE	40	1					4	7	2		1			1				1		23		1	12	53
	HAWTHORNE	26	1																		3			1	5
	HIGHLAND	30	5					2	4			2	1								21		1	2	38
	MC KINLEY	66	1												1						3				5
	MILES AVENUE	36	3						6			5							1		11			4	30
	NEWMAN	47	2					1	6	1		1									9		2	6	28
	NORTH PARK	48	3		1			1	1			3	3		1						2			1	14
	ORCHARD	42	2																		2			3	7
	POLY DRIVE	59	2					1	4										1		7				15
	RIMROCK	23	1					1	1			5	2								16			2	28
	TAFT	29	1																		1			2	4
	WASHINGTON	61	3						2			1			1						14	1		1	23
	<b>TOTAL</b>	<b>700</b>	<b>34</b>		<b>3</b>	<b>1</b>	<b>1</b>	<b>12</b>	<b>40</b>	<b>4</b>		<b>25</b>	<b>8</b>		<b>5</b>	<b>1</b>			<b>9</b>	<b>146</b>	<b>2</b>	<b>5</b>	<b>39</b>		<b>335</b>
HELENA	BROADWATER	15																			5				5
	BRYANT	26	1					2											1		9	1	8	1	23
	CENTRAL	29																							0
	HAWTHORNE	31																			14		2		16
	LINCOLN	27																							0
	MAY BUTLER	25																			5				5
	OLD JEFFERSON	46																			12				12
	<b>TOTAL</b>	<b>199</b>	<b>1</b>					<b>2</b>				<b>1</b>							<b>1</b>	<b>45</b>	<b>1</b>	<b>10</b>	<b>1</b>		<b>61</b>
KALIS	C. HEDGES	38	8																1		15	1			24
	EDGERTON	11	4		1																6		4		15
	ELROD	30	9									1									5		2	3	20
	RUSSELL	32	2																		13				15
	<b>TOTAL</b>	<b>111</b>	<b>23</b>		<b>1</b>							<b>1</b>							<b>1</b>	<b>39</b>	<b>1</b>	<b>6</b>	<b>3</b>		<b>74</b>
BOZEMAN	EMERSON	18																			9			3	12
	HAWTHORNE	35																			1				1
	IRVING	37																			7			1	8
	LONGFELLOW	9																			10			1	11
	WHITTIER	39																			3			1	4
	<b>TOTAL</b>	<b>138</b>																			<b>30</b>			<b>6</b>	<b>36</b>
<b>TOTAL - FOURTH</b>		<b>1,149</b>	<b>58</b>		<b>4</b>	<b>1</b>	<b>1</b>	<b>14</b>	<b>40</b>	<b>4</b>		<b>26</b>	<b>8</b>		<b>5</b>	<b>1</b>			<b>10</b>	<b>260</b>	<b>4</b>	<b>21</b>	<b>49</b>		<b>506</b>

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LISTING OF INSTRUMENTS PLAYED, FIRST-CLASS DISTRICTS, SIXTH GRADE

CITY	SCHOOL	NONE	VIO	VLA	CEL	S BS	HARP	FLT	CLAR	SAX	HORN	TRUM	COR	E <sup>B</sup> AL	TROM	BAR	B HN	TUBA	DRUM	PERC	PIAN	ORGN	S IN	ACCD	TOTAL	
BLGS	BENCH	20						1	12	1		1	2								6			5	28	
	BROADWATER	33	8					1	7			3	2		1			1	3		17		1	3	47	
	BURLINGTON	28	1						10			3	1		1					2	5		1	2	26	
	E CAMPUS	11						1	2			3	1								5				12	
	GARFIELD	73	9	1	1				5	2	1	1	2		1						1			1	25	
	GRAND AVE	17	1					1				1	1		1										5	
	HIGHLAND	20	1						3				1									27			32	
	JEFFERSON	17						1												1		7			9	
	L & CLARK	49	2					1	3				5	2		2				1	22				38	
	MC KINLEY	23	1			1			2	1		1	1	1						1	1	12			22	
	MILES AVE	33							2	1						2						6		1		12
	NEWMAN	29	1						4			1	1								9		1		17	
	NORTH PARK	25	3										1	2		1				1	7		1	5	21	
	ORCHARD	22	2						8				1							3	3		1	4	22	
	RIMROCK	27	3						3				2	2		1				1	21		1		34	
WASHINGTON	29	6						4	2			1	1		1				3	7			2	2	29	
TOTAL		456	38	1	1	1		6	65	7	1	24	19	1	11			1	16	1	155	1	8	22	379	
HELENA	BRYANT	21						1	3			4	1		1									1	11	
	CENTRAL	109	8	1	2			1	9			8	2		2				1		21				55	
	HAWTHORNE	39	2		1				2			5													10	
TOTAL		169	10	1	3			2	14			17	3		3				1		21			1	76	
KALIS	C HEDGES	25	1		1			4	6	3	1	2	1	1	1		1		2		5		1	1	31	
	EDGERTON	18	1						2	2		1	2		2	1					1		1		13	
	ELROD	42	4			1			3	2	2		2		1			1	4		8		1		29	
	RUSSELL	12	2	1				1	8			2		1	2	1		1	3		6				28	
TOTAL		97	8	1	1	1		5	19	7	3	5	5	2	6	2	1	2	9		20		3	1	101	
BOZEMAN	EMERSON	99	7					3	7	1		5	3		4				3		44	1	3	5	86	
TOTAL - SIXTH		820	63	3	5	2		16	105	15	4	51	30	3	24	2	1	3	29	1	240	2	14	29	642	
TOT FIRST-CLASS		1,969	121	3	9	3	1	30	145	19	4	77	38	3	29	3	1	3	39	1	500	6	35	78	1,148	

LISTING OF INSTRUMENTS PLAYED, SECOND-CLASS DISTRICTS, FOURTH GRADE

CITY	SCHOOL	NONE	VIO	VLA	CEL	S BS	HARP	FLT	CLAR	SAX	HORN	TRUM	COR	E <sup>B</sup> AL	TROM	BAR	B HN	TUBA	DRUM	PERC	PIAN	ORGN	S IN	ACCD	TOTAL
LAUREL	EAST	66										1									22		2	1	26
	SOUTH	6						4													2		6		12
	WEST	24																			6			1	7
TOTAL		96						4				1									30		8	2	45
SIDNEY	- - -	78						2	7	1			3							1	14		9		37
HAMIL	JEFFERSON	37																			12		2	2	16
	WASHINGTON	21																			10			3	13
TOTAL		58																			22		2	5	29
TOTAL - FOURTH		232						6	7	1		1	3							1	66		19	7	111

LISTING OF INSTRUMENTS PLAYED, SECOND-CLASS DISTRICTS, SIXTH GRADE

CITY	SCHOOL	NONE	VIO	VLA	CEL	S BS	HARP	FLT	CLAR	SAX	HORN	TRUM	COR	E <sup>B</sup> AL	TROM	BAR	B HN	TUBA	DRUM	PERC	PIAN	ORGN	S IN	ACCD	TOTAL
LAUREL	EAST	43						1	8	2		5	2		1				1		15	1	3	4	43
	SOUTH	12							2												1			1	4
	WEST	15							2			1						1	1		1	1	1		8
TOTAL		70						1	12	2		6	2		1			1	2		17	2	4	5	55
SIDNEY	- - -	64	1					2	7				12		3	1					14			3	43
HAMIL	JEFFERSON	16	1							1		2	4		1				4		10				23
	WASHINGTON	7	1					1	5	2				2	1				2		9		1	1	25
TOTAL		23	2					1	5	3		2	4	2	2				6		19		1	1	48
W S SPG	- - -	13	2					1	4			1	1		2				5		2				18
TOTAL - SIXTH		170	5					5	28	5		9	19	2	8	1		1	13		52	2	5	9	164
TOT SECOND-CLASS		402	5					11	35	6		10	22	2	8	1		1	14		118	2	24	16	275

LISTING OF INSTRUMENTS PLAYED, THIRD-CLASS DISTRICTS, FOURTH GRADE

CITY	NONE	VIO	VLA	CEL	S BS	HARP	FLT	CLAR	SAX	HORN	TRUM	COR	E <sup>B</sup> AL	TROM	BAR	B HN	TUBA	DRUM	PERC	PIAN	ORGN	S IN	ACCD	TOTAL
BROADVIEW	1							3				1								2				6
CASCADE	16																				1			1
CUSTER	12																							0
DENTON	5																			7				7
MANHATTAN	18																			6	1		1	8
PARK CITY	10							2		1	2									2			2	9
WINNETT	8																			3				3
<b>TOTAL - FOURTH</b>	<b>70</b>							<b>5</b>		<b>1</b>	<b>2</b>	<b>1</b>								<b>20</b>	<b>2</b>		<b>3</b>	<b>34</b>

LISTING OF INSTRUMENTS PLAYED, THIRD-CLASS DISTRICTS, SIXTH GRADE

CITY	NONE	VIO	VLA	CEL	S BS	HARP	FLT	CLAR	SAX	HORN	TRUM	COR	E <sup>B</sup> AL	TROM	BAR	B HN	TUBA	DRUM	PERC	PIAN	ORGN	S IN	ACCD	TOTAL
BROADVIEW	1							1			1										1	1		4
CASCADE	9							3			3			2				1		3				12
DENTON	4							2	4		3							2		7				18
MANHATTAN	14						1	2				1			1			1		8			1	15
STANFORD	4						1	3		2	2							3		1				12
WINNETT	9																			2				2
<b>TOTAL - SIXTH</b>	<b>41</b>						<b>2</b>	<b>11</b>	<b>4</b>	<b>2</b>	<b>9</b>	<b>1</b>		<b>2</b>	<b>1</b>			<b>7</b>		<b>21</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>63</b>
<b>TOT THIRD-CLASS</b>	<b>111</b>						<b>2</b>	<b>16</b>	<b>4</b>	<b>3</b>	<b>11</b>	<b>2</b>		<b>2</b>	<b>1</b>			<b>7</b>		<b>41</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>97</b>
<b>TOT SECOND-CLASS</b>	<b>402</b>	<b>5</b>					<b>11</b>	<b>35</b>	<b>6</b>		<b>10</b>	<b>22</b>	<b>2</b>	<b>8</b>	<b>1</b>		<b>1</b>	<b>14</b>		<b>118</b>	<b>2</b>	<b>24</b>	<b>16</b>	<b>275</b>
<b>TOT FIRST-CLASS</b>	<b>1,969</b>	<b>121</b>	<b>3</b>	<b>9</b>	<b>3</b>	<b>1</b>	<b>30</b>	<b>145</b>	<b>19</b>	<b>4</b>	<b>77</b>	<b>38</b>	<b>3</b>	<b>29</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>39</b>	<b>1</b>	<b>500</b>	<b>6</b>	<b>35</b>	<b>78</b>	<b>1,148</b>
<b>TOT ALL DIST</b>	<b>2,482</b>	<b>126</b>	<b>3</b>	<b>9</b>	<b>3</b>	<b>1</b>	<b>43</b>	<b>196</b>	<b>29</b>	<b>7</b>	<b>98</b>	<b>62</b>	<b>5</b>	<b>39</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>60</b>	<b>1</b>	<b>659</b>	<b>11</b>	<b>60</b>	<b>98</b>	<b>1,520</b>

## DIRECTIONS FOR ADMINISTERING ACHIEVEMENT TEST IN MUSIC

### General Instructions:

In tests 1A and 1B, the syllable names include the seven diatonic scale tone names: do, re, mi, fa, so, la, and ti. The numbers in relation to the syllables are: do - 1, re - 2, mi - 3, fa - 4, so - 5, la - 6, and ti - 7. All do's are number 1. The numbers are taught in place of or in addition to the syllables. If the syllables or the numbers are not taught, eliminate that test. For this test the examiner should copy the key signatures on the blackboard with the position of 'do' indicated for the fourth graders.

It is recommended for the fourth grade that part or all of some tests be omitted, depending upon the teacher's knowledge of what the particular student group has attained.

Lead pencil is the most suitable type of pencil since it will allow the opportunity to change an answer. In such a case the first answer should be completely erased. Since this is a diagnostic test, there are no time limits. It is most desirable to have as many complete the test as possible. Try to have at least 90% of each group finish the test.

The tests are to be returned without checking them.

### Testing Procedure:

#### Test 1A - Diatonic Syllable Names

Note to examiner: Key signatures should be copied on the blackboard with the position of 'do' indicated for fourth grade students.

Have the students supply themselves with pencils and a ruler or paper marker to be used in Test 7. Distribute the tests (2 sheets in each test). Then say: "Write your name at the top of the first page. Also write the name of the school, the city, your grade in school, the date, and the name of a musical instrument or instruments that you are playing or have played. Now write your name again at the top of page three." The examiner should hold up a copy of the test and point to these blanks.

After these blanks have been filled in, the examiner will say: "Listen to the directions. In this test you do not write any letter, number, or words to show what your answers are. Instead, you make black marks with your pencil within the pairs of lines. Make each mark as long as the pair of lines and move your pencil up and down to make a heavy black line. If you change an answer, erase your first mark completely.

"Now listen carefully while I explain the way the answers are marked in the sample measure in the first test of syllable names." The examiner points to the first measure on page 1 of the test. "Look at the first measure with its key signature of one sharp and the four notes. Where is 'do'?' (Let the students answer.) Yes, it is on the second line. Look at the first note. What is the syllable name of this note? (Let students answer.) Yes, it is 'do.' Now go down the column of syllable names until you come to syllable 'do.' A black mark fills the answer space in the first pair of lines after 'do.' Notice also that this black answer mark is right under the first note 'do.' This shows that 'do' is the correct answer. Look at the first music exercise again. What is the syllable name of the second note? (Let students answer.) Yes, it is 'fa.' Notice that a black mark fills the answer space in the second pair of lines after 'fa,' because these lines are under the note 'fa.'

"Now look at the third note. Find the black mark in the third answer space column in the answer row which tells its syllable name. What is it? (Pause) 'So' is the correct answer. Look at the last note in the measure. What is it? (Pause) 'Mi' is the right answer." If there is any confusion, students should not be directed to proceed with the test until everyone understands how the answers are to be marked.

When all are ready to continue, say: "You are to mark the rest of the exercises in Test 1A in the same way. There are syllable names for each of the four exercises similar to those in the Sample. Show the syllable names of each note by making a heavy black mark to fill the answer space within the pair of lines in the column of answer spaces under that note and to the right of the syllable name. Mark within only one pair of lines for each note. Be sure to watch for key signature changes. Ready, begin."

When 90% of the group have finished, or if students cannot finish, say: "Stop."

#### Test 1B - Diatonic Number Names

Say: "This test is similar to Test 1A. It is a test of number names. All 'do's' are number 1's. Look at the first group of four notes. On what space do you find the number 1 note? (Let the students answer.) Yes, it is on the fourth line and also on the space below the staff. What is the number name of the first note? (Pause for response.) Yes, it is four. A black mark fills the answer space within the first pair of lines to the right of the number 4 and directly below the number 4 note. This shows that number 4 is the correct number name. Look at the second note. It is number 1. Notice that a black mark fills the space within the second pair of lines to the right of the number name of 1 and directly below the note. Look at the third note. Find the black mark in the third answer space column in the answer row which tells its number name. What is the number of the note? (Pause) Yes, 2 is correct. Now look at the



fourth note. What is its number? Six is correct.

"You are to mark your answers to the other four exercises of this test in the same way. Remember that the first thing to do in each exercise is to find out on what line or space the number 1 note belongs. Be sure to watch for key signature changes and note that each exercise is in a different key. Ready, begin."

When 90% of the group have finished, or if students cannot complete the exercise: say: "Stop."

### Test 2 - Intervals

"This is a test of intervals or the names for the amount of space between notes. Look at the first group of two notes. They are F and A. Now look at the pairs of lines below these two notes. Find the name that tells you the correct name for the amount of space between these two notes (F and A) and put a black mark within the pair of lines next to it.

"To mark your answer for the second set of two notes, look down the column of lines right below it and make a heavy black mark to fill the answer space to the right of the correct name for the amount of space between the two notes. You are to mark your answers to the other sets of two notes in the same way. Do the second group of notes in the right hand column in the same way as the group in the left hand column."

When 90% of the group have finished, or if students cannot complete the exercise, say: "Stop! Turn this page over to the second side."

### Test 3 - Key Names

"This is a test of naming keys. There is one flat in the key signature of the first exercise. Where is 'do'? Yes, it is in the first space. You are to decide, BUT DO NOT TELL ME, the correct name of the key. When you have done this, look at the column of key names to the left below the music with A flat at the top of the column and G at the bottom.

"Find the letter in this column which tells the name of the key in the first exercise. Place a black mark within the pair of lines that is to the right of this letter and directly below the key signature in the music. Now decide the key name for each of the other exercises in this test and place a black mark within the pair of lines directly below the key signature of each exercise and to the right of the correct letter. Notice that there are ten exercises separated by double bars. Each exercise represents only one key signature even though there may be more than one sharp or flat. Therefore, be sure to mark only one answer in the column of answer spaces under each exercise. Ready, begin."

When 90% of the group have finished, or if students cannot finish the exercise, say: "Stop."

#### Test 4 - Letter Names

"This is a test of letter names. Look at the first exercise or measure of music. Decide what you think the letter name of the first note is. Find that letter below and a little to the left of the first note and make a black mark within the pair of lines to the right of it. Now show the letter names of the other notes of this exercise in the same way. Ready, begin."

When 90% of the group have finished, or if students cannot finish the exercise, say: "Stop! Look at the next test."

#### Test 5 - Note and Rest Values

"This is a test of note and rest values. Look at the time signature. How many beats or counts are there in each measure? (Pause) Three is correct. What kind of note gets one count or beat? (Pause) Yes, a quarter note. Look at the first note. Find the number below this note that tells how many counts or beats it receives and place a black mark within the pair of lines to the right of the correct number of beats. Be sure to look at the new time signature when you reach the double bar. Now do the other notes and rests in the same way. Ready, begin."

When 90% of the group have finished, or if students cannot finish the exercise, say: "Stop! Look for the next test at the top of the second page."

#### Test 6A - Time Signatures

"This is a test of time signatures. Time signatures tell the number of beats or counts in each measure of music. Look at the first signature. What is it? (Pause) Yes, it is 4-4 time. Now look at the pairs of lines below this 4-4 time signature. Find the number that tells you the correct number of beats or counts for music with a 4-4 time signature and put a black mark within the pair of dotted lines next to it. To mark your answer for the second time signature, decide how many beats or counts each measure should have, look down the column of lines right below it and make a heavy black mark to fill the answer space next to the right number. Do the other signatures of this test in the same way. Ready, begin."

When 90% of the group have finished, or if students cannot finish the exercise, say: "Stop! Look at the next test."

### Test 6B - Time Signatures

"This is another test of time signatures. Again, time signatures tell the number of beats or counts in each measure of music. Look at the first measure to see what note or notes are within the measure. Now look at the time signatures below the first measure. Find the time signature that should be used for the first measure and put a black mark within the pair of lines next to it. To mark your answer for the second measure, look for the time signature that should be used and put a black mark within the pair of lines below the measure and to the right of the time signature chosen. Do the other signatures in the second row of this test in the same way. Ready, begin."

When 90% of the group have finished, or if students cannot finish the exercise, say: "Stop! Look at the test at the bottom of the page."

### Test 7 - Signs and Symbols

"This is a test of the names of signs and symbols of music. Notes, rests, and time signatures are called music signs and symbols. Look at the first symbol just above the answer letter "a." What is it called? Yes, it is a treble clef sign. Now find the words 'treble clef' in the list to the left and just below the music. (Hold up the test and point to the list.) Now put a black mark within the pair of lines to the right of the words 'treble clef' and directly below the treble clef in the music. (Be sure that the students know how to mark their answers.) Now do each of the other signs and symbols in the same way. Follow down each column of lines until you find the right name on the list. Since the columns of answer spaces are long, use your ruler or a paper marker to help guide your eye down each column from the sign or symbol to the correct answer space. Then, make a black mark within the pair of lines at this point. Ready, begin."

When 90% of the group have finished, or if students cannot finish the exercise, say: "Stop! Now look at the test on the back side of this page."

### Test 8 - Song Recognition

"This test consists of ten familiar melodies. Below each melody on the music sheet is a list of four song titles with a pair of lines for each title. You are to read the music for each melody and decide which of the four titles is the correct one.

"Hum the first melody, number one, to yourself silently. Do not sing or hum out loud so others can hear you. (Do not permit students to hum audibly. If they persist in singing or humming audibly, stop the test and explain why they must not do so.) Now decide what you think the correct title of song number one is. Find this title or name in the

list of four song titles below it. Make a black mark in the pair of lines in front of the title you have chosen. Do the rest of the test in the same way. Hum each melody silently and decide on the correct name of the song and mark the pair of lines in front of the title you have decided is correct. Ready, begin."

When 90% of the group have finished, or if students cannot complete the exercise, say: "Stop! Put your pencils down. Now inspect your test sheets. Are all your marks heavy black lines? If not, go over the light ones and blacken them. Have you made any extra marks or dots by accident? If so, erase them."

(If the examiner or teacher or both have any comments of any kind about the test or the reactions of the students in taking the test, I would appreciate it if you would write them here: )

# Achievement Test in Music

Name \_\_\_\_\_ Grade \_\_\_\_\_

School \_\_\_\_\_ Date \_\_\_\_\_

City \_\_\_\_\_ Instrument \_\_\_\_\_

## IA - Syllable Names



Sample:

mi					la					do					fa					do				
so					do					so					do					mi				
do					fa					ti					so					ti				
fa					so					mi					re					so				

## IB - Number Names



Sample:

2					3					5					7					3				
4					1					1					3					6				
1					7					5					2					2				
6					6					4					6					7				

## 2 - Interval Names



perf. 8th					min. 2nd				
maj. 3rd					maj. 6th				
maj. 2nd					perf. 4th				
perf. 5th					min. 3rd				
min. 7th					dim. 5th				



Name \_\_\_\_\_

### 6A- Time Signatures



2 beats		2		2		2		2		2		2		2		2		2	
3 beats		3		3		3		3		3		3		3		3		3	
4 beats		4		4		4		4		4		4		4		4		4	
5 beats		5		5		5		5		6 beats		6		6		6		6	
6 beats		6		6		6		6		9 beats		9		9		9		9	

### 6B- Time Signatures



3/4									
2/4									
6/8									
3/8									
4/4									

### 7- Signs and Symbols



	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
whole note											bar line									
time signature											soft									
sixteenth note											sharp									
half note											quarter rest									
repeat											hold									
treble clef											whole rest									
sixteenth rest											flat									
eighth note											loud									
key signature											eighth rest									
quarter note											natural									

8 - Song Recognition

||Three Blind Mice ||Deck the Halls ||Star Spangled Banner ||Go Down, Moses

||Row, Row, Row Your Boat ||Jingle Bells ||Billy Boy ||Three Blind Mice

||Home on the Range ||Deck the Halls ||America the Beautiful ||Are You Sleeping

||America the Beautiful ||Jingle Bells ||Are You Sleeping ||Silent Night

||Row, Row, Row Your Boat ||Home on the Range ||Star Spangled Banner ||Deck the Halls

||Battle Hymn of the Republic ||Jingle Bells ||Go Down, Moses ||Deck the Halls

||Are You Sleeping ||O Little Town of Bethlehem ||Three Blind Mice ||Dixie

||Sweet and Low ||Are You Sleeping ||Silent Night ||America the Beautiful

||Sweet and Low ||Battle Hymn of the Republic ||Three Blind Mice ||Home on the Range

||O Little Town of Bethlehem ||Oh Susannah ||America the B