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# MISSOURI JOURNAL OF RESEARCH IN MUSIC EDUCATION

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## INTRODUCTION

The Missouri State Department of Education is pleased to present this fourth edition of the Missouri Journal of Research in Music Education.

Research, experimentation, reports, and articles of a philosophical nature provide the basis for positive thinking and improvement in education. The reporting of research findings is necessary to disseminate the information to those in the field. Comments by music educators have assured us of the value and interest of the Journal to the music profession. The authors are to be commended for their contributions.

We encourage all educators, and especially those in the field of music, to become acquainted with the articles in this Journal. The information would be of value in the understanding, promotion, evaluation, and improvement of music education in our State.

A handwritten signature in cursive script, reading "S. J. Russell, Jr.", positioned above the typed name and title.

Assistant Commissioner,  
Division of Instruction

## PREFACE

The Missouri Journal of Research in Music Education is a publication devoted to the needs and interests of the school and college music teachers of Missouri and of the nation. It is published as a Bulletin of the State Department of Education. Besides the publication of reports of research or experimentation in progress or completed, included are abstracts of theses either completed or in progress, articles of a philosophical nature, as well as simple reports on the results of successful musical pedagogy.

Since this publication is not copyrighted, complete articles or excerpts from articles may be made without charge. In so doing, it is requested that credit be given to the Missouri Journal of Research in Music Education.

Copies of this Journal are obtainable without charge from the Missouri State Department of Education.

Suggestions to the Editor concerning the format of the Journal or the content of the articles included, are solicited.

Grateful appreciation is expressed to those who have assisted in any way in the preparation of this bulletin.—THE EDITOR.

# THE SENIOR COMPREHENSIVE EXAMINATION AS A MEANS OF IMPROVING MUSIC THEORY TEACHING IN MISSOURI'S COLLEGES AND UNIVERSITIES

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## PART ONE: THE INITIAL PROGRAM

In 1961, the College-University division of the Missouri Music Educators Association launched an experimental program aimed at improving the quality of theory pedagogy in its member colleges. After some preliminary discussion, the problem shifted from one of goals and methods of our present day theory courses, to the larger area of student competencies in theory. Specifically, it was decided to explore the area of the graduating senior music major's ability to put into practice the knowledge and skills learned during his four years of theory study. As the author stated in his address to the MMEA in 1964:

The problem is not so much that colleges disagree as to what should be taught; MTNA, MENC, and NASM have pretty well standardized theory offerings at the college level. The trouble arises more frequently in the theory class itself, in the grading system, and in the whole process of acquisition of credit. Too often, the theory class operates in a sort of vacuum, unrelated to other classes, unrelated to future professional work, sometimes even unrelated to music! A typical student, having survived his theory classes, is assumed through some magic process to have permanently acquired the desired skills and knowledge. A series of such classes, when added up, produces the required number of credits, a mathematical process so satisfyingly precise on paper that we seldom bother to ascertain whether the hours of credit represent any usable skills or needed knowledge.

It was felt, then, that Missouri's attack on the problem of theory-pedagogy might best be launched by measuring the amount and kind of theoretical training possessed by our graduating senior music majors. The examination, in order to do this, would have to deal with practical applications of theory rather than paper skills, with problems whose solution required an ability to make theory actually work, rather than the ability to recall some abstract item of knowledge, isolated from other aspects of music. By measuring the degree to which our future teachers and practitioners were or were not able to do this, the schools involved might then have some clearer insight into the changes that might have to be made in their respective theory courses. Quoting again from the initial presentation of this program to the MMEA in 1964:

If each music student were to regard his theory classes as a preparation for some future goal, some barrier, some examination which he knew he must pass before graduating, and if this examination were known to be based on something like real classroom teaching situations, the theory instruction and learning might well take on a more realistic, serious atmosphere.

Under the direction of the author, a "theory comprehensive examination" was worked out and presented to the MMEA College-University division for approval in its January 1964 meeting. The proposed scheme was adopted, and during that year, music departments in Missouri colleges and universities were asked to cooperate by giving the examination to their senior music majors. Initially, 140 copies of the examination were sent to the schools requesting them. These copies were mailed out in mid-September, to be returned to the sender by December 1st, if possible. Due to busy schedules, shortness of time, and underestimation of the work involved, only 40 examinations were returned to the author, and this study is based on the findings revealed by these returns.

The first phase of the study (the initial examination, its individual problems and aims) was reported in the article "Music Theory and Musicianship Teaching in Missouri Colleges and Universities: A Preliminary Report" found in the Autumn 1964 issue of the *MISSOURI JOURNAL OF RESEARCH IN MUSIC EDUCATION*, Volume 1, No. 3. The present article deals with the test as used by the several institutions, together with recommendations for its further use. A brief description of the original test follows:

### **Comprehensive Theory Examination**

**PROBLEM ONE:** You are watching a copy of the music as a soloist plays his part for you. Correct any errors in rhythm, pitch, or phrasing which you detect. The music will be of average high school contest difficulty.

**PROBLEM TWO:** You are given a fairly simple choral piece of approximately 16 measures for 15 minutes of study. You are equipped with a chromatic pitch-pipe. At the end of the study period you will direct a small choral group in the number, correcting any errors they may make. Indicate only starting pitches on pitch-pipe; sing other pitches and chords for the group. Demonstrate suitable conducting techniques on fermati, meter changes, and so forth.

**PROBLEM THREE:** You are given a four-part vocal score in the choral style. Starting with only the tonic pitch, study this score carefully for 10 minutes. Then listen to a piano version pointing out errors in pitch and rhythm.

**PROBLEM FOUR:** At the keyboard, harmonize a simple given melody with left hand chords. Continue beyond the normal ending by phrase extension, modulation, sequence, and so on.

**PROBLEM FIVE:** At the keyboard, illustrate on request such theory features as types of chords, scales, modes, progressions, intervals, and so on. Be able to do the same vocally, where it applies.

**PROBLEM SIX:** The same features of theory as in Problem Five should be illustrated on your major instrument. If this is either voice, organ, or piano, this problem may be omitted.

**PROBLEM SEVEN:** Arrange a given melody of simple nature for either band or orchestra in full score, using various types of accompaniment, harmonic variety, simple counterpoint in a counter-melody, and so on. The work should take one day, done under supervision.

**PROBLEM EIGHT:** Using a given theme as a beginning, write a piece of music illustrating your knowledge of small forms. The piece should be in the

nature of 60 measures total. The writing should be done in the space of 90 minutes time.

**PROBLEM NINE:** A piece of music will be played for you. As you hear it, listen carefully for such compositional features as themes, motives, formal structure, modulation, and so on. On repeated hearings, identify such features as they occur at specific places in the music.

In preparing the actual testing material, the author duplicated sample materials for each school as follows:

#### 1. MATERIALS FOR EACH PROBLEM:

- a. **Problem One:** Multiple copies of a clarinet solo excerpt of eight measures, for the students taking the test. One copy was provided for the clarinetist, with pitch and phrasing errors which the student was to mark on his copy as he heard the music being played.
- b. **Problem Two:** A four-part choral piece which the student was to conduct. Singers were provided with copies containing pitch and rhythmic errors which the student-conductor was to mark.
- c. **Problem Three:** A four-part piano chorale, with the same conditions as in problem two. Student was to listen to piano version and mark pitch and rhythm errors.
- d. **Problem Four:** An eight-bar melody which the student was to harmonize and extend. Right-hand melodic line provided.
- e. **Problem Five:** Ten items of keyboard harmony and theory which the student was to play at the piano. (see test results for list of items).
- f. **Problem Six:** Eight similar items which the student was to illustrate on his major instrument.
- g. **Problem Seven:** An arrangement for band or orchestra of a given melody. Student provided harmony, instrumentation, form, inner parts, countermelodies, etc. Original melody was eight measures in length.
- h. **Problem Eight:** A five measure melodic fragment was given on which the student was to base a 60 measure composition.
- i. **Problem Nine:** A list of 23 items pertaining to the musical structure of a Haydn quartet movement (see final results) was provided the examiner. As record was played, and as instructor called off numbers from one to 23, the student was asked to write what was happening in the formal structure at each point indicated.

#### 2. RATING SHEETS:

- a. **For students**—an evaluation sheet was provided for each student taking the examination, on which the instructor could rate his ability in solving the nine problems. Problems One, Two, and Three were scored on the number of errors detected while Problems Four through Eight were scored on the instructor's estimation of whether the student did well or poorly in his keyboard harmony, composition, orchestration, and so on. Problem Nine was scored on the number of items correctly identified.
- b. **For instructors**—the "Institutional Evaluation Sheet" was included as a check on the effectiveness and usefulness of the examination itself. On it, each institution was asked to evaluate the comprehensive examination in several respects (see final results).

**PART TWO—TEST FINDINGS**  
**RESULTS FROM STUDENT GRADING SHEETS**

Possible Errors	PROBLEM ONE (Clarinet Solo— 40 Responses.)		PROBLEM TWO (Choral Directing— 30 Responses.)		PROBLEM THREE (Piano Chorale— 40 Responses.)	
	Pitch Percent	Phras. Percent	Pitch Percent	Rhythm Percent	Pitch Percent	Rhythm Percent
0	12.5	2.5	0	3	10	2.5
1	10	0	14	6	5	0
2	10	2.5	4	17	7.5	7.5
3	2.5	2.5	14	30	2.5	7.5
4	10	7.5	14	17	0	7.5
5	7.5	12.5	24	27	7.5	27.5
6	12.5	12.5	14		2.5	17.5
7	0	12.5	6		10	5
8	10	10	6		5	15
9	2.5	0	4		12.5	7.5
10	10	10	0		5	2.5
11	7.5	10			0	
12	0	10			0	
13	5	2.5			2.5	
14	0	5			2.5	
15					2.5	
16					2.5	
17					2.5	
18					5	
19					2.5	
20					7.5	
21					2.5	
22					0	
23					2.5	
24					0	

**PROBLEM FOUR (Harmonizing simple melody with l.h. chords.)**  
**40 responses.**

Problems	Teacher Rating Scale				
	(Best)				(Worst)
	1	2	3	4	5
	Percent	Percent	Percent	Percent	Percent
a. Use of harmonies.....	15	42.5	37.5	5	0
b. Use of sequence.....	30	22.5	30	15	2.5
c. Use of phrase ext.....	12.5	25	37.5	17.5	7.5
d. Use of modulation.....	17.5	20.5	35	17.5	10
e. Sureness and ease.....	10	22.5	50	15	2.5
f. Variety of accomp.....	7.5	30	37.5	17.5	7.5

**PROBLEM FIVE: (Theory performance at the keyboard.)**  
40 responses.

Problems	Teacher Rating Scale				
	(Best)				(Worst)
	1	2	3	4	5
	Percent	Percent	Percent	Percent	Percent
a. Mel. min. scale of A.....	50	25	17.5	2.5	5
b. ii triad, Bb major.....	52.5	17.5	15	2.5	12.5
c. G min. 7th, open h.....	30	35	15	12.5	7.5
d. Secondary dom., Gm.....	30	22.5	22.5	15	10
e. Triad + added 2nd.....	50	17.5	10	20	2.5
f. Desc. m 6th int.....	57.5	7.5	17.5	5	12.5
g. Circle of 5ths.....	20	30	30	5	15
h. F maj. to G min. mod.....	20	20	27.5	17.5	15
i. Lydian mode.....	40	12.5	5	10	32.5
j. B minor scale.....	60	15	20	5	0

**PROBLEM SIX: (Theory performance on major instrument.)**  
40 responses, except on section "h" where 17 were recorded.

Problems	Teacher Rating Scale				
	(Best)				(Worst)
	1	2	3	4	5
	Percent	Percent	Percent	Percent	Percent
a. A min. 7th arpeggio.....	68	16	12	4	0
b. C harm min. scale.....	68	12	12	8	0
c. Asc. min. 9th int.....	64	16	12	8	0
d. Tonic arpeggio F m.....	80	8	8	4	0
e. Altern. M and m 3ds ascending from C.....	56	20	16	8	0
f. Desc. m6th interval.....	64	12	16	4	4
g. Series of asc. P4th.....	60	28	12	0	0
h. Mel min. scale of A.....	50	25	19	6	0

**PROBLEM SEVEN: (Arranging for band, orchestra.)** 15 responses.

Problems	Teacher Rating Scale				
	(Best)				(Worst)
	1	2	3	4	5
	Percent	Percent	Percent	Percent	Percent
a. Accuracy of trans.....	60	20	0	20	0
b. Use of inst. range.....	53	14	33	0	0
c. Inst. comb., color.....	20	40	40	0	0
d. Counter melodies.....	33	27	7	33	0
e. Inner parts.....	27	27	40	6	0
f. Use of form.....	54	0	40	6	0



**PROBLEM EIGHT: (Small form composition.) 29 responses.**

Problems	Teacher Rating Scale				
	(Best)				(Worst)
	1	2	3	4	5
	Percent	Percent	Percent	Percent	Percent
a. Ability to write 60 bars in 90 min.....	27	17	45	7	4
b. Use of extensions.....	30	10	40	17	3
c. Modulation usage.....	17	21	41	21	0
d. Use of sequences.....	42	24	21	13	0
e. Formal structure.....	38	21	34	7	0

**PROBLEM NINE: (Listening analysis.) Scale below represents number of listening clues correctly identified. 30 responses.**

Scale	Responses
20-23 (Excellent).....	5%
15-19 (Good).....	30%
9-15 (Average).....	30%
4-8 (Poor).....	35%
0-3 (Very Poor).....	0

**INSTITUTIONAL EVALUATION**

Five institutions rated the test as a whole. The ratings fall into two parts: (a) For individual problems, and (b) For the whole examination. The individual test problems were rated on the familiar scale from 1 (excellent) to 5 (very poor). Individual ratings are shown in each box below.

**THE INDIVIDUAL PROBLEMS**

	1	2	3	4	5	6	7	8	9
a. Ease of administration.....	11 22	14 5	11 13	11 22	11 2	11 2	11 .....	12 .....	11 1
b. Attitude of student.....	11 34	12 .....	11 23	11 33	11 23	12 3	12 .....	13 .....	12 2
c. Attitude of teacher.....	12 3	12 .....	11 22	13 3	11 3	11 3	12 .....	12 .....	11 1
d. Overall success of problem.....	2 44	34 .....	22 43	12 3	12 3	12 2	13 .....	24 .....	22 3
e. Effect on maintaining theory practice 4 years.....	11 3	13 .....	11 22	11 3	11 4	11 4	12 .....	13 .....	11 2

**General idea of the examination rated:** Excellent, 3; Good, 2.

**Problems that should be eliminated:** None, 3 No. 2; 1 No. 6; 1.

**Problems that should be revised:** No. 1-4; No. 2-3; No. 3-3; No. 4-3; No. 5-3; No. 6-2; No. 7-2; Yo. 8-2; No. 9-2.

**Should the test (revised) be part of the music major's requirements?** Yes, 3; No, 1; and Perhaps, 1.

**Should the test also be given at end of sophomore year?** Yes, 1; No, 0; Perhaps, 3.

**Should "my" college make it a requirement if others do?** Yes, 2; No, 1; Perhaps, 2.

### COMMENTS FROM THOSE PARTICIPATING IN THE EXPERIMENT

1. Revision of certain problems should be undertaken so as to include fewer errors. Identification takes time.
2. More attention should be paid to ascertaining whether the student can actually sight-sing or not.
3. Students found it difficult to determine both pitch and rhythm errors in two hearings. As a teacher, one is familiar with a given piece before having to determine errors.
4. Problems arise when student singers are involved. They, too, make errors not included on test.
5. Would like to see some item to test ability to determine style in different eras.
6. Problems should be clarified, clearly stated. Method of indicating errors could be improved, especially in problems 1 and 3.
7. (The following responses were from graduate students taking the test in one institution. Some had had teaching experience.)
  - a. On Problem Four (harmonization of melody at keyboard)

"I think every music undergraduate and graduate should be expected to play the piano well enough to do this. The ear-training part of keyboard harmony is not emphasized enough . . . this is one of the most important skills a music teacher has."

"Preparation in improvisation should be an important part of the music teacher's education."

"Knowledge of the keyboard is very valuable in any kind of music."

"What about the person who has played piano very little? Are undergraduate requirements on the instrument sufficient to prepare every student to do this much?"

"The ability to transpose, play by ear, improvise, and accompany at the piano is an invaluable aid to any music teacher."
  - b. Problem Eight (composition of small forms).

"This kind of test is appropriate, although the length seemed a bit too great for a years-ago graduate to complete in the time."

"To be able to do this is fine, but there was hardly enough time."

"A good question—however, after a few years of not writing chords and melodies, it can be rugged."

## SOME GENERAL COMMENTS AND OBSERVATIONS

1. Most music educators at the secondary level and lower are constantly concerned with correcting errors made by their students. No other skills or personality factors will compensate for this ability. In **PROBLEM ONE**, we find a great variation in our students' abilities to do this. Out of 14 pitch errors, 65% of those tested could identify less than half. 35% of those taking the test identified 3 errors or less! On the other hand, 25% could spot 9 or more of the 14 possible errors. It was easier to detect phrasing errors, apparently. 60% of those tested found more than half of them.

In **PROBLEM TWO** (detecting errors while directing a choral piece) the situation is again akin to what the student will be doing in his profession. Of 10 possible pitch errors, 46% of those tested could find less than half. 24% found 5 errors, and 30% were able to get from 7 to 10. Rhythmic errors were much easier to find. 27% found all of them, while 17% got 4 out of 5, and 30% detected 3. When the problem was shifted to a four-part chorale played on the piano, the ability to hear pitch errors showed a much wider variation. In **PROBLEM THREE** there were 24 pitch errors. 25% of those tested could hear 3 errors or less! Another 25% heard between 5 and 8 errors. The third quarter of the group could find between 9 and 15 of the errors, while the last fourth got from 16 to 23 of the possible mistakes. In actuality, the curve is slightly bulged at both extremes. In the middle group of scores, only 10% of those tested heard from 10 to 14 errors. It would seem that students are either well able to detect errors in pitch, or very little. In contrast, the rhythmic error factor in this same problem falls in a much more normal curve.

In comparing the three ear-training problems of the test, we might conclude that detecting pitch errors when merely listening requires a different level or type of ability from that used to detect pitch errors while conducting. Certainly factors involving use of student groups, nervousness, and the time element come into play here. However, the fact that there is significant difference here suggests that we might think seriously about trying to identify a possible duality of hearing ability, and teach specifically for this factor.

2. The inclusion of certain aspects of theory such as keyboard harmonization and theory practice on one's instrument has thrown light on one important question in college theory teaching. Are we really teaching that which we know to be important to the future professional life of the student? Compare the ratings given to students on **PROBLEMS FOUR AND FIVE**. The former attempts to measure theory as a creative tool, while the latter isolates bits and pieces of theory for measurement. Top ratings are significantly more frequent in the latter area! Does this reflect a facet of theory teaching we should be concerned about? Have we, indeed, concentrated on "facts" rather than teaching our students to put these to good musical use?

**PROBLEM EIGHT**, like **Problem Four**, seeks to measure theory as used in the construction of music. Again we have a contrast in **PROBLEM SIX** where single items are measured. The incidence of high ratings given shows clearly that students do much better in the latter type of

theory work. An interesting corollary is seen in the comparatively low rating given in **PROBLEM SEVEN** to the writing of counter melodies in the orchestration, again a problem of using theory creatively.

Music is the one major art area in both secondary schools and colleges where creativity is NOT considered of at least secondary importance! Perhaps theory teachers need to address themselves to the question of whether it ought to be.

3. Many of the weak spots in this test, both from its inception and through its administration confirm the suspicion that careful thought should be given to college theory teaching from several points of view:
  - a. Terminology—perhaps some measure of uniformity might be attempted in the area of agreement on terms and names.
  - b. Method—should there be common agreement among colleges that theory learning should be evidenced on the student's part by his proven ability to put his knowledge into practical use? Are we as a profession satisfied with the present practice of compartmentalized coursework terminating in a series of exams?
  - c. Product—the wide variations in ability shown in the individual test scores suggest strongly that we are graduating teachers ranging from very good to very poor in the practical aspects of theory work. Self-regulation and "standardization" of graduates by other professions has resulted in greater respect and acceptance by the public. Would it work in music education?
  - d. Curriculum—are there areas of college theory work which are not useful to the future teacher, or which cannot be measured in terms of tangible competencies? If so, should we revise these, or eliminate them?
4. The author of this study wishes to remark upon the general atmosphere surrounding the whole endeavor. The interest shown by the several schools of the state was greatly encouraging. The labors of those who administered the exam were much appreciated. With this much interest among Missouri's schools, surely there must be sufficient momentum built up to carry the work ahead. Personally, this theory teacher is looking forward to a day when the colleges of the state can present a unified program in music theory of benefit to every music major.

### **PART THREE: PLANS FOR THE FUTURE**

During the time that this program was being worked out and tested, a parallel program was being developed as another part of the MMEA's College-University division activities. This latter program dealt with the improvement of music history-literature instruction in the colleges of the state, and was directed by Miss Martha Wurtz of Washington University in St. Louis.

As the two programs neared their trial points, it became apparent that there was a point at which the two were overlapping, especially in problems such as listening and arranging, where matters of style so strongly influence the final judgment. Not only was there overlapping in the questions and problems, but it soon became apparent that there would be the time element to think of; few schools would be able to devote the

necessary time to two full-scale comprehensive examinations in the student's senior year, and still cope with such other requirements as recital and practice-teaching.

At the January 1965 meeting of MMEA, at which the above results were presented, the membership voted to forward the following resolutions to the Executive Council: (author's italics)

1. That a committee composed of Leon Karel, Martha Wurtz, Wesley Forbis, Kenneth Dustman, Ralph Hart, Paul Pisk and Lewis Hilton be appointed (with no financial commitment implied from MMEA) to continue the history-theory curriculum study with the view to working out a simplified, shortened series of examinations, and with the *history and theory sections amalgamated into one examination*. This new version will again be sent to all college music departments in the state early in the Fall of 1965. Colleges will be asked again to administer the examination to their *senior music majors*, returning the results to this committee by December 15. New findings will be reported to the MMEA meeting in January of 1966.
2. Upon receipt of the new information, further revision of the examination should be undertaken, if necessary, after which MMEA should strongly urge Missouri's music departments to make use of this device for the purpose of raising the minimum level of competency in the area of general musicianship throughout the state of graduating music education majors. Of course, no attempt at compulsion should be undertaken. Colleges choosing to use the tool would be free to modify it to suit their own needs.
3. With some unity of purpose among the state colleges, MMEA should start a program to *encourage high schools to include as much of this training in their work as possible*. A brochure should be printed and circulated in the high schools of Missouri, setting forth the music theory requirements which colleges will want their entering majors to have. Such items as basic piano facility, ability to read more than one clef, sight reading and sight singing, and thorough knowledge of scales and intervals might be stressed. *High school students should be encouraged to get this type of training prior to coming to college*, and high schools should be encouraged to provide it.
4. When the high school student enters college as a music major, he should be provided a list of theory skills which he will need to master before graduation. During his four years of work he should be constantly urged to go beyond the minimum set, doing additional work in areas where he is weak. The aims of the college should be twofold: to graduate music educators with well developed theory skills and to prohibit inadequate students from entering the profession.
5. The committee to be empowered to begin work on a proposal to the Department of Health, Education and Welfare for funds to underwrite the whole theory-history-musicianship curriculum project. This proposal should be submitted by the MMEA executive committee to the Department of HEW as soon as it can be prepared and approved by that body.

# STRUCTURED LEARNING AND MUSIC READING

BARBARA COOK  
Washington University

## The Initial Teaching Alphabet

A very close parallel exists between the learning of language and of music; both are oral as well as visual skills; both are learned vocally before they are learned visually. Hearing plays a vital role in the development of each; the child must be able to differentiate the sounds of the language before he can learn to speak correctly just as he must learn to differentiate pitches in order to sing in tune. The English language and music also share a lack of logic and consistency in their written forms.

The language, derived from a mixture of Anglo-Saxon (from Low German), and Norman-French (from Latin), has in its development since the 15th century added vocabulary from every locale colonized by the British as well as from European languages. The result is a language rich in expressive potential but filled with contradictions concerning the rules of spelling and pronunciation. Bernard Shaw illustrated this lack of logic beautifully when he proposed adding another word to the language:

GHOTI:

GH as in enough

O as in women

TI as in nation (to spell the word, FISH).

Musical notation, adapted in a similar fashion for the transition from the early modal music to diatonic then atonal music, has also become increasingly intricate and confusing. It failed to achieve complete accuracy in describing even the modes as the whole and half steps had identical appearance. The jumble in 20th century musical notation closely approaches GHOTI in terms of realized flamboyant confusion. As early as Bartok (1881-1945) the use of un-key signatures appeared; Hindemith disdained key signatures for his own works altogether (because they did not fit the structure of his music), leaving behind a stream of assorted accidentals. Even J. S. Bach's music still has performers complaining about accidentals and double accidentals plus the challenging blackness of many of his works. Rhythmic notation is also somewhat confusing; logic might lead one to believe the more imposing symbols might well receive more time; instead, the less time one is allowed to count flags and bars the more flags and bars there are to be counted.

As both orthography and musical notation are symbols meant to be transformed into meaningful sounds (or mental images of meaningful sounds as in the case of silent reading of either), lack of correlation between the symbols and their indicated sounds create obvious stumbling blocks for the beginner. The years of practice and application required to master the intricacies of both language and music follow quite logically in the wake of the complications and contradictions proffered by their written forms.

Recognizing the difficulties encountered by children in learning to read and write the English language, Sir James Pitman devised an adaptation of the alphabet which aspires to bestow some degree of uniformity upon written English. Originally called the Augmented Roman Alphabet,

it is now known as the initial teaching alphabet or i.t.a. (always written in lower case). Sir James and his associate, Mr. John Downing, have been testing i.t.a. extensively in and around London, England, since the autumn of 1961. Bethlehem, Pennsylvania joined the movement in the fall of 1963, and since that time many other American school systems have been sufficiently interested to try i.t.a., including Mary Institute and the University City Public Schools in St. Louis County.

What is i.t.a.? The initial teaching alphabet follows:

æ - ænjel (angel)	ue - ueenited staets	
b - bell	v - valentien	
c - cat	w - wagon	
d - dog	y - yœ yœ	
ee - eegl (eagle)	z - zeebra	
f - fish (fish)	s - sissors	
g - goet (goat)	wh - whisl	
h - hors (horse)	ch - chæer (chair)	
ie - ies creem	th - thægksgiving	
j - Jack-o-lantern	th - fethr (feather)	
k - kee (key)	sh - sh(w) - (shoe)	
l - lœon - (lion)	ʒ - televizion	
m - muŋky - (monkey)	ŋ - riŋ	
n - nest	a - arm	u - sun
œ - boet (boat)	au - automobeel	w - bowk (book)
p - pensil	a - appl	w - bœt (boot)
r - rabbit	e - egg	ou - owl (owl)
s - santa claus	i - indian	oi - boi (boy)
t - tæbl (table)	o - ostrich	r - girl

paul and sally at the see  
 "heer wee ar at the see," sed paul's muŋther.  
 sally and paul ran down tw the see.  
 paul ran very fast intw the see and sally ran in  
 after him.  
 "dœ not goe soe fast," shee sed.  
 "ie cannot goe as fast as yœ." ①

This may seem confusing to the adult following a cursory examination; after only one hour of using the symbols it begins to flow quite naturally.

Pitman began work on his teaching alphabet under the assumption that the complexities and inconsistencies of traditional orthography are an important cause of failures in beginning reading. He appears to have simplified the initial learning in three ways:

1. Fewer characters need to be learned. As only lower case is used the total number of symbols in i.t.a. is 44 opposed to 52 in traditional orthography when both upper and lower case are included. (Which they are in primers.)
2. Fewer whole word representations need to be learned. Because only one form of each letter is used, each whole word printed in i.t.a. has only a single printed form.
3. Less phonemic print-signals need to be learned. For example, the 18—lower case print—signals for the pheneme *oo* in *too, shoe, flew, do, through, rheumatism, flue, etc.*, is cut to only one in i.t.a.<sup>2</sup>

i.t.a. presents 50 elementary phonic facts to learn; traditional orthography has hundreds of alternatives in lower case alone, more than 2,000 if upper case and script are included. In words like *lane, mine, rule*, the silent *e*, which changes the vowel sound necessitates a reversal in the direction of reading; i.t.a. never breaks the left to right rule.

Dr. Raymond J. Scheele, Professor of Education at Hofstra University, Long Island, New York, makes these comments concerning the mental skills children should master and the best means of instrumentation:

In the elementary program the mental processes of classification, definition, evaluation, comparison, inference and explanation and others must be logically developed.

The new curriculums are not data oriented as were the traditional, but are operation oriented. The operational task; that is, the intellectual task, is the job of the school. We must work with what will move the child to the next stage.<sup>3</sup>

Traditional orthography defines its own means of presentation as its complex visage automatically shapes the teaching of all its varied rules and forms into a data oriented task for young children in which they must simply commit words and facts to memory, then wait four or five years to find the sense of it all. i.t.a., on the other hand, presents discernable patterns which would seem to shape the teaching of this system into the mold of an operational task; i.t.a. gives children uniform symbols which they can learn to manipulate more readily.

To relate this to the stages of development, exercising the physical power of speech corresponds roughly to Stage 1 in that it is the sensory motor aspect of learning language. Comprehensive and skilled reading involving reversibility is Stage 3. The teaching of traditional orthography at Stage 2 level has been largely a matter of learning parts of many structures by rote without comprehension of the whole (except on the part of exceptionally insightful students). Perhaps using a logical set of symbols to transform orthography into meaningful sounds bridges this psychological gap in that the child does not need to perform internalized and reversible operations, Stage 3, before he has gained insight into the system and thus



needs to be working at the Stage 2 level.<sup>4</sup> Once the structures have become definitive and secure in terms of working with accurate and consistent pictorial entities, Stage 2 operations, the mind is then prepared to progress into Stage 3 and the development of reversibility in relating random patterns to an established mental structure.

i.t.a. produces very outstanding results as regards reading i.t.a.; short-term indications are that transition to traditional orthography is neither impossible nor unduly difficult. The program has gained enormous momentum in the United States; reports from Cleveland, Ohio, and Bethlehem, Pennsylvania, indicate the same enthusiasm shown by proponents of the program in St. Louis County.<sup>5</sup> Subtracting a measure of its success in deference to the Hawthorne Effect still leaves ample evidence of its success in assisting children to conquer language skills more quickly, and, for a given age, more competently.

### Pictorial Music Notation

The nature of musical notation predestines the teaching of music reading into a data oriented task just as in the case of traditional orthography. True, music is not nearly as complicated as language, but it is not exercised as consistently.

Many a child of six has never even tried to sing; many others have tried without realizing their failure. But for the eagerness of these same children to learn and their lack of embarrassment in approaching the learning of new skills, the situation would be very grim.

Consider singing to be Stage 1 of the developmental hierarchy in that it is a sensory motor act, a manipulation of the voice, and Stage 3 is represented by the ability to use all of the musical symbols to produce meaningful sounds. What lies between to instrument the middle stage in a fashion children really comprehend? Why is music reading so easily forgotten that a group of third graders who read well in the spring return the next fall as fourth graders who need a complete refresher course? Lack of practice for three months is a part of the answer, but three months should not be sufficiently long for children to forget skills which had attained any degree of real meaning.

At the present time almost every method which includes music reading includes some variety of teaching device designated to tie the diatonic interval pattern to memory so the student can sing intervals correctly by rote response. Whether the device is syllables, numbers, hand signals or shape notes, the reason for using them is the same. Since the diatonic scale has discrepancies between interval relationships and corresponding notation due to the two half steps (i.e., in the key of G, consecutive lines beginning with G to B, a major third, B to D, a minor third, etc.); these devices have been necessary to establish a point of departure. The devices are of little assistance in reading modal or post-romantic music; they are confusing even in the minor. La, do, mi just does not sound like a tonic chord any more than does do, mi, sol with a lowered mi. Add a few accidentals and children become quite confused.

The notation has altogether too many possible variations; any two notes (minor third or more) plus chromatic alterations produce nine different sets of pitches, five different intervals. Add a third note plus

chromatic alterations and the possible variations increase to 27 different combinations of sound.

Of course children are not expected to deal with all of these complications in elementary school, but they are asked to do many things in a certain way just because that is the way it is! They are asked to sing half steps where whole steps have been and vice versa, as soon as more than one location for the tonic note has been used. If more than one key is not used in the first year of note reading, the location of the scale steps tends to become so fixed in children's minds as to be almost immovable.

Certainly the appropriate key signatures are present; this may indirectly teach children to categorically reject learning them as they are always there—meaning exactly nothing to the student except that they look like possible complications he might rather avoid. As hearing music everywhere can result in hearing, but never listening to any of it, the unexplained presence of a bevy of meaningless symbols may be training the young to ignore them completely. Even if students question these meanings, they do not understand the answers very well if at all; often a question asked and unsuccessfully answered is less than no question. The eventual goal of reading music may seem impossible to the child when he fails to understand most of what he sees—he needs an attainable goal. The new math does not display quadratic equations for viewing over a three or four year period before finally attempting to teach the student the use of the equations, hoping that by some mysterious osmotic process the viewing will summon insight.

### A Pictorial System of Notation

A pictorial system of notation might well offer the same advantages offered by i.t.a. in the teaching of reading. It could bridge the gap in the stages of psychological development by utilizing notation which is consistent in the relationships it describes, and eliminating the necessity for the clutter of qualifying symbols which make notation pleasing to the eye, but confusing to the comprehension of the beginner. Perhaps it would instrument the development of a solid structural foundation, the existence of which would serve to anchor the reversible thought processes necessary to deal with the complex structures of traditional notation.

The rhythmic notation indicates clearly the exact number of units each note is to be given; the mass of the note corresponds more closely to its length. The introduction of dotted notes should be easier with this notation as the fractional relationships are accurately pictured.

The system furnishes a musical number line; the key note is the arbitrary point of reference. The exact location of a particular letter name is relatively unimportant for beginning singers; the essential issue is the relationship of pitches, the structural element of melody.

In this notation a major and minor scale do not look the same; intervals which sound the same do look the same; those which sound different look different and the degree of difference is measured. The number of lines used could also vary to correspond with the range of each song.

The first system consists of two staves. The upper staff is a piano accompaniment in G major, showing a rising melodic line in the right hand and a supporting bass line in the left hand. The lower staff is a vocal line in G major, featuring a melodic line with eighth and quarter notes.


The second system consists of two staves. The upper staff is a piano accompaniment in G major, with a melodic line in the right hand and a bass line in the left hand. The lower staff is a vocal line in G major. Handwritten annotations in the right margin point to specific intervals: "Major and minor 3<sup>rd</sup>s" and "Perf. and Dim. 5<sup>th</sup>".

The third system consists of two staves. The upper staff is a piano accompaniment in G major, with a melodic line in the right hand and a bass line in the left hand. The lower staff is a vocal line in G major, featuring a melodic line with eighth and quarter notes.

## SEQUENCE OF PRESENTATION

Introduce pictorial notation as soon as a group can sing in tune with assurance (late first grade or early second.)

A possible sequence of presentation for an initial trial follows:

1. Teach the words of several songs in rhythm; have students read the words of other songs in rhythm according to rhythmic notation.
2. Using songs for which the words and rhythm have been learned, add melodic lines as follows:
  - a. Chromatic two and three-note melodies.
  - b. Whole tone melodies with two, three, four then more notes.
  - c. Pentatonic melodies.
  - d. Diatonic melodies with skips no larger than a third.
  - e. Diatonic melodies with larger skips.
3. Continue using pictorial notation until a class has attained sufficient skill to:
  - a. Read songs of equivalent difficulty with "America."
  - b. Build chromatic, whole tone, pentatonic, major and minor scales.
  - c. Read rhythmic notation readily.
4. Change to standard rhythmic notation first; place notes carefully so each one occupies its correct proportional amount of space within the bar. Long notes could be followed by a line to indicate duration:  

5. Using a keyboard instrument, have the class build scales to illustrate the necessity for chromatic alterations in standard notation. Point out the natural half-steps on the keyboard and correlate them to the notational system. Do several songs in both pictorial and standard notation.
6. Throughout the entire sequence be certain that students identify intervals and scale patterns by sound as well as by sight.

The following hypothetical statements should be considered in any test of this method:

1. Pictorial notation promotes the development of music reading facility in the early stages, thereby lending momentum to the learning process and motivation to the student.
2. Accurate picturization of intervals and time values helps establish meaningful basic structures of interval relationships which can be retained by the student. (At least for the summer.)
3. Pictorial notation can open new possibilities to children relative to their ability to notate original compositions.
4. It can serve remedial purposes for older children or adults as a means of introducing music reading.
5. The transition to standard notation can be accomplished without undue confusion.
6. In the transition, the meanings of many of the complexities of traditional notation would be discovered by the student; for example, the function of accidentals and key signatures would be apparent to students as they explore the interval adjustments necessary to build tonalities in traditional notation.

## FOOTNOTES

1. Downing, John A., "Teaching Reading with i.t.a. in Britian," *Phi Delta Kappan*, April 1964, p. 326.
2. *Ibid.*, p. 324.
3. *Teaching Students to Think*, Resume of talks by Dr. Raymond J. Scheele, University City Public Schools.
4. Elkind, Larson, Van Doorninck, "Perceptual Decentration Learning and Performance in Slow and Average Readers," *Journal of Educational Psychology*, February 1965, p. 50.
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# THE FRENCH HORN, A RIGHT HANDED INSTRUMENT

KENNETH SCHULTZ

St. Louis Symphony Orchestra

To a person not thoroughly familiar with the technique of the horn, it may seem strange that the horn is fingered with the left hand while most of the other brass instruments are designed with the right handed public in mind. The manipulation of the valves with the fingers of the left hand is, of course, a recent innovation. The horn had and still has a right hand technique which dates back almost to the beginning of its use in the orchestra.

The development of the horn went through four distinct stages.

1. The era of the natural horn.
2. The addition of crooks and the emergence of the hand horn.
3. The invention of valves and the use of one, two, and three valved instruments.
4. The development of the double horn.

A look at the second stage, particularly the use of the hand horn will not only help us to better understand the problems of the early hornists, but will help the student to appreciate the capabilities of right hand technique when applied to a modern instrument.

By the beginning of the eighteenth century the natural horn<sup>1</sup> had developed to the extent that it was accepted in the orchestra.<sup>2</sup> We find that in Hamburg (1705), two cornes de chasse were used for the presentation of Reinhard Keiser's "Octavia." These instruments, of course, were limited to the partials of their natural harmonic series. It must also be remembered that these horns were held with their bells pointing straight up, or at least with the bell at head height.

To the horn player Anton Joseph Hampel (Hampel) goes the credit for the discovery of hand horn playing. Hampel was second horn in the King of Poland's famous orchestra in Dresden. During the year 1760<sup>3</sup> he experimented extensively with muting his instrument to modify the still raucous tone. He found that by fully muting or stopping the bell with a cotton-wool plug a remarkable change in pitch could be noticed and that by a combination of fully and partially stopping the bell, the entire chromatic range of the horn could be realized. He also found that the hand had the same effect as the cotton mute and could be used with greater facility. There is some question as to whether or not Hampel actually discovered hand muting.<sup>4</sup> Evidence exists that earlier players of the circular trumpet (Italian trumpet), such as Gottfried Reiche, Bach's principal trumpet player in Leipzig, used their hands in the bell to modify some of the more seriously out of tune harmonics. These harmonics were mainly the eleventh, thirteenth, and fourteenth. Like Hampel, they also used their hands to improve the tone. Hampel definitely can be credited with organizing the knowledge of hand stopping, improving it, and making it an accepted part of the technique of the great school of Bohemian horn playing.

Hampel should be remembered not only for his experiments in hand stopping, but also for being the man who taught the most outstanding horn virtuoso of the Eighteenth and Nineteenth Centuries. Historians agree that his student, Jan Vaclav Stich—known to the music world as Giovanni Punto (1748-1803), was a man whose artistic abilities were not matched until the recent short career of Dennis Brain. Hampel was not a young man when he began his experiments with hand stopping and for this reason he probably never fully realized the potential of his discovery. With virtually a new instrument and a new technique, his student Punto was left the task of exploiting its possibilities.

Although Punto was undoubtedly the master of hand horn playing, he was for some reason reluctant to leave a written record of how to produce these stopped tones. Although he had written several horn methods, none of them contained any detailed information on this subject. The first known author of detailed instructions for the use of the hand in the bell was Orthon Joseph Vandenbroek, a hornist in the Paris Opera Orchestra. His two works are "Methode Nouvelle et Raisonnee pour apprendre a donner des Cor, dedice aux Amateurs," published in 1797, and "Suite a la Methode Nouvelle et Raisonnee," unpublished.

These works were followed by many other horn tutors. Excerpts from the best of these are still in use today. In 1803 Frederic Duvernoy published his "Methode pour le Cor" which was simply written and probably had the beginner in mind.

Five years later Heinrich Domnich, a student of Punto, came out with an exhaustive study of horn playing in his "Methode de Premier et de Second Cor." This work, written for the advanced student, was adopted as the official Paris Conservatory tutor. Every aspect of horn playing was treated in detail. It also contains historical notes which provide us with much of our information about the origin of hand stopping.

The most celebrated of all horn study books to come out of Paris Conservatory tradition was the "Methode de Cor Alto et de Cor Basse." This work was written by Louis-Francois Dauprat in 1824. Like Domnich, he covered every aspect of the technique of horn playing in detail. His work surpasses the others in that it lays much more stress on the development of good musicianship and taste.

The last great horn tutor to come out of France was Gally's "Methode pour le Cor," c. 1845. This major work for the hand horn came thirty years after the invention of valves for brass instruments. France was the last stronghold of hand stopping and resisted the use of the valve horn until the beginning of the Twentieth Century. This resistance to change can probably partially be traced to Gally's book and his teaching at the Paris Conservatory.

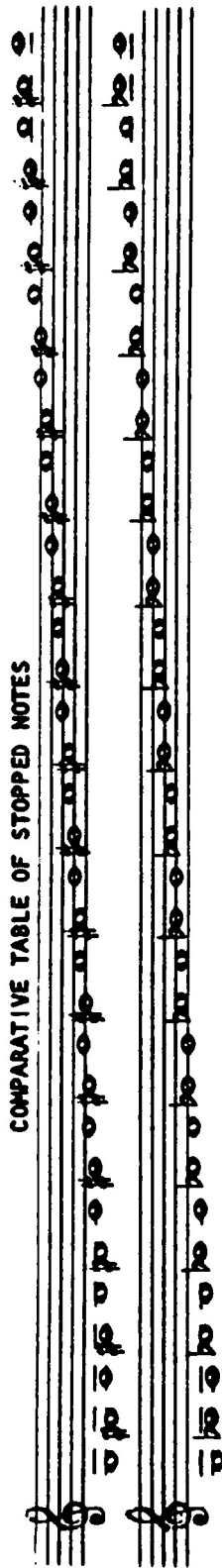
In general hand horn playing persisted until about 1850. Its relatively short career produced a wealth of studies and horn concertos as well as many artists capable of performing them. When the valve horn first came into use it was played with hand horn technique. At first the valves, usually two, were considered merely a quick and easy way of changing crooks. Hand technique was retained and only the weak notes (those requiring too much stopping) were the ones on which the hornist changed valves. We also find that during this period of overlap, composers wrote for two pairs of horns—two hand horns and two valve horns.

Although not all teachers agree with me, I find it important for all students to eventually learn the technique of hand horn playing. This is important if for no other reason than to give us an emergency alternate technique. Since most horns have valves which are of the string action variety, the danger is always present of their breaking down. I have seen many instances where a horn player had to finish a performance one valve short and without right hand technique, he would have been in trouble. More important than this is that a knowledge of hand horn playing helps us to overcome the problems of intonation and hand muting, which are discussed later.

The following Comparative Table of Stopped Notes shows the degree of hand stopping recommended by some of the great hand horn specialists. It should be noted that although they generally agree, there still are quite a few differences. One probable explanation for this is that these men used instruments of slightly different design with different acoustical problems. Another is that they undoubtedly differed in the amount of compensation they used with their lips to adjust faulty intonation.



COMPARATIVE TABLE OF STOPPED NOTES



Duvernoy 1803	N + + + + + N N + + + N N + + + N N + a + N N + + N + + O O † N
Domnich 1808	N + + † d e N + e d e N c + d N e + d N e + d N e + d O N N N
Frolich 1811	N + + + d N + + N d + d N + d O d N d N d N c d N d + d N N
Dauprat 1824	N O + † e c O N + e c d N d + c N d + d † d O N c N c + e N O e † O N +
Mengel 1835	N + + † e N + † e N + + e N + e N e N e N e N + † N N e + N N N N
Galley c. 1845	d e N + e e N c + d e N e + d N e d O e + D N e N c + N e O N c
Frenz, O. c. 1880	N + + + e N + + e N + d N + d + e N e N e N e N e + N N N
Prez, Aug. 1911	N + d N + + e N + d N + d N e N e N e N d N N e † N N N

N = normal hand position + = fully stopped 0 = hand wide open a = 1/3 b = 2/3  
 c = 1/4 d = 1/2 e = 3/4 Fractions equal the amount by which the normal opening is reduced.

Based on a table by R. Morley-Pegge in The French Horn, p. 101.

## Present Day Use of the Right Hand

**AN AID IN HOLDING THE HORN.**—This is not as important today as it once was and still is in parts of Europe. Most American hornists support the bell of their instrument with the right thigh, giving both the left and right hands more freedom. The right hand, however, still is used to support the instrument in the bells up position.

**CORRECTING FAULTY INTONATION.**—When the right hand is inserted into the bell properly the pitch lowers about a quarter of a step. This is taken into consideration when the horns are manufactured. Closing the hand lowers the pitch and opening the hand raises it. If the right hand is inserted at a more or less proper distance, the main tuning slide should not have to be pulled excessively.

Most hornists take this change in pitch for granted and give little thought to what is happening as they manipulate the right hand in the bell. As the hand closes, great resistance is set up in the horn. The vibrating lip is actually slowed down by this resistance and the pitch naturally lowers because of the slower vibrations produced. It is an interesting experiment slowly to close the hand and at the same time compensate for the change in pitch and the increased resistance by tightening the lip and blowing harder. In normal playing, however, the right hand is valuable in adjusting intonation.

**MODIFYING THE TONE.**—This was Hampel's main reason for his experiments with the right hand and probably is still the most important use for the right hand today. If the hand is inserted in the bell at the point where the horn is in tune, this generally will eliminate the somewhat blatant tone of the instrument. Experimenting with the hand by placing it in various positions in the bell will show the different tone colors that can be produced and changed instantly. As the hand becomes more closed the tone becomes more covered and muffled. Intonation and carrying power change as well as the timbre when the hand position changes. Excessive right hand manipulation should be avoided because of the uneven tone color produced. This was one of the main objections to the school of hand horn playing even though its exponents kept the changes in timbre to a minimum.

**HAND MUTING.**—This is the process of completely closing<sup>5</sup> the bell with the hand to obtain the special effect tone color similar to that produced by a fiber, metal, or wooden mute. For many years there has been much argument as to whether or not hand muting actually raises the pitch. I do not hope to solve the argument, but simply wish to report what works well for me as well as for a great many horn authorities. As the hand closes in the bell the tone lowers to the point that it is a half step flat when the hand is completely closed. If one were to stop here the hornist would have to transpose a semitone higher to play the correct pitch. Most hornists, as well as myself, continue one step beyond this point. When the bell is tightly closed (a loose hand will not work well) it is an easy matter to overblow the note so that the pitch "snaps" up a full step.<sup>6</sup> What has actually happened is that when the hand is tightly jammed into the bell it stops the vibration beyond that point effectively shortening the tubing of the horn by the amount necessary to raise the pitch a half step. The resulting note, of course, will have to be transposed a half step lower.

Once the technique of hand muting is perfected it seems quite easy to produce at will. I must caution an instructor not to pass over this important phenomenon as a simple task to master for there are many problems to solve. One should evaluate the type of horn that the student is using (particularly the bell size), the physical characteristics of the right hand, and the type of muting effect required before imposing a fixed technique or hand position on the student. Generally speaking, we start with the hand in the normal open position, leave the fingers in this position, and using the knuckles as a hinge swing the heel of the hand in to close off the bell. The combination of a large throated bell and a small hand may require that the hand be thrust slightly farther into the bell in order to close it properly. A large fleshy hand usually makes muting easy while a large knuckled bony hand usually must be twisted in the bell in order to close it properly.

Most of the trouble occurring from hand muting is with intonation. It will take much experimenting to find the exact place in the bell for perfect intonation. As the hand goes further into the bell, and more tubing is closed off, the pitch rises. Most problems of intonation can be solved with "lipping" (changing the size of the lip aperture). Some of the more seriously out of tune notes can be adjusted by using alternate fingerings. Do not attempt to hand mute on the B flat side of the double horn as these notes are usually a quarter of a step sharp and cannot be adjusted easily. The great increase in resistance also creates a serious tuning problem as too little or too much compensation with the lip and diaphragm make it difficult for the inexperienced hornist to strike the correct note much less play it in tune. The bottom of the practical range for hand stopped notes is middle C, (horn in F). Although a few hornists can hand mute several notes lower and a rare one might be able to play in the entire low register, this is the point where most hornists stop.<sup>7</sup> Beyond this point producing the notes with any semblance of correct intonation and control is virtually impossible.

It is sad to report that few composers seem to have any idea about the problems of muting in general and hand muting in particular. This is evident by the many instances of their impractical and incomplete muting directions. Fortunately most conductors either do not care or do not understand the problem, for they let the hornists decide for themselves whether to use the hand or the fiber mute, regardless of the directions in the music. During the middle of a sustained note, for example, we frequently see the direction to insert a fiber mute. The only way this can be accomplished and still come close to following the composer's directions, is to substitute the hand for the mute. Many composers call for alternate hand muting and open notes in the extreme low register. Although horn players frequently have the freedom to decide which to use, one is certainly not an equivalent for the other. An artist takes advantage of the different timbres and substitutes only when nothing else is practical.

The following is a list of muting directions that horn players frequently encounter in their music.

MUTED	HAND MUTED	REMOVE THE MUTE
muted	closed	open
sordino	stopped	
con sordino	chiuso	senza sordino
		naturale
mit Dampfer	gestopft	Dampfer ab
Dampfer auf		Dampfer fort
gedampft		Dampfer weg
		ohne Dampfer
		gewöhnlich
		natürlich
		offen
soudine	sons bouches	ouvert
avec sourdine		sons naturels
mettez la sourdine		sons ordinaires
		sons ouverts
		sans sourdine
		otez la sourdine

The sign "4" over a note indicates that this note only is to be stopped with the hand. On a few occasions I have seen the direction "plugged," and I assume that the composer wants these notes hand muted.



Fig. 1

Fig. 1 shows a very popular hand position used today with slight variations by perhaps a majority of the horn players. The hand is open with only a slight bit of cupping. This position produces a free unimpeded tone. Caution must be taken, particularly in loud passages, that the tone does not get raucous. A popular variation of this position places the hand on the side of the bell opposite the hornist instead of at the bottom of the bell. The column of air is deflected into the clothing and the resulting tone is somewhat more mellow.

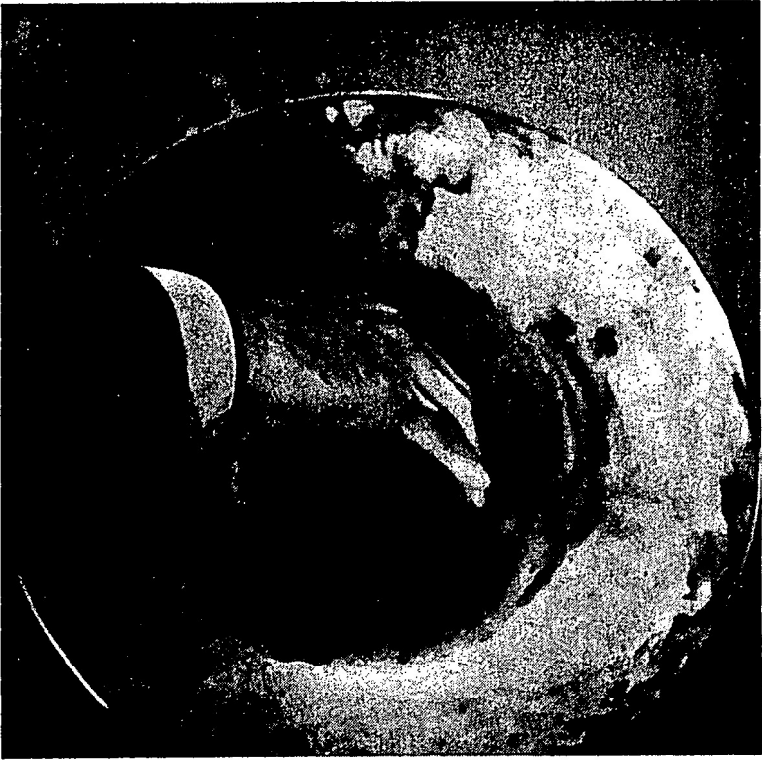


Fig. 2

Fig. 2 shows a hand position which, although it is not in wide use today, produces a fine centered tone that carries well. Since the fingers are not inserted deeply in the bell, the tone sounds open and not at all muffled. The parts of the hand touching the bell are mainly the knuckles of the thumb and forefinger rather than the back of the fingers. This particular hand position works well in the "bells up" position. I also favor it for general playing because of the tone it produces. A slight modification will have to be made when very rapid passages of alternate open and closed horn are called for.

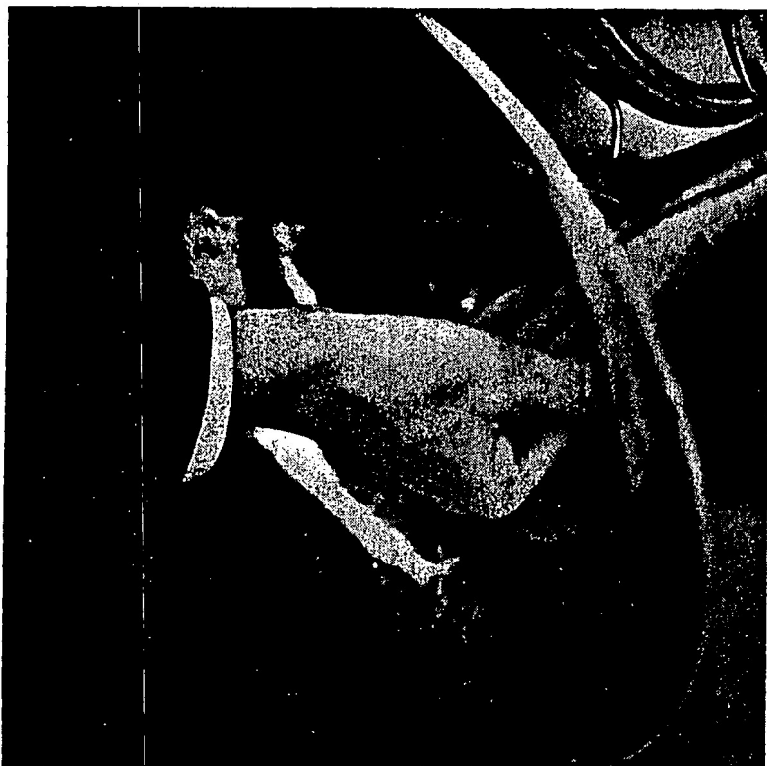


Fig. 3

In Fig. 3 we see a hand position used mainly by some of the older German hornists. The fingers are placed against the bell in the same manner as in Fig. 3. Instead of remaining flat the hand is arched so that the back of the hand approximately parallels the outer edge of the horn's bell. It produces a warm and rather dark sound. The main objection is that although this hand position sounds beautiful up close, the sound usually does not project sufficiently. Most hornists have difficulty projecting the amount of sound necessary to satisfy our present day standards.



Fig. 4

Fig. 4 shows a rather unconventional hand position, but I have included it because it is used by several of the finest virtuosi. The fingers do not rest against the bell, but rather divide the bell into two equal parts. The fingers are inserted straight down the middle of the throat of the bell so that just the forefinger and the little finger touch the instrument. The air column is split, half passing on either side of the hand. There does not seem to be any great deal of consistency in the tone it produces among the various players, however, although these tones differ in timbre none of them have any objectionable qualities.



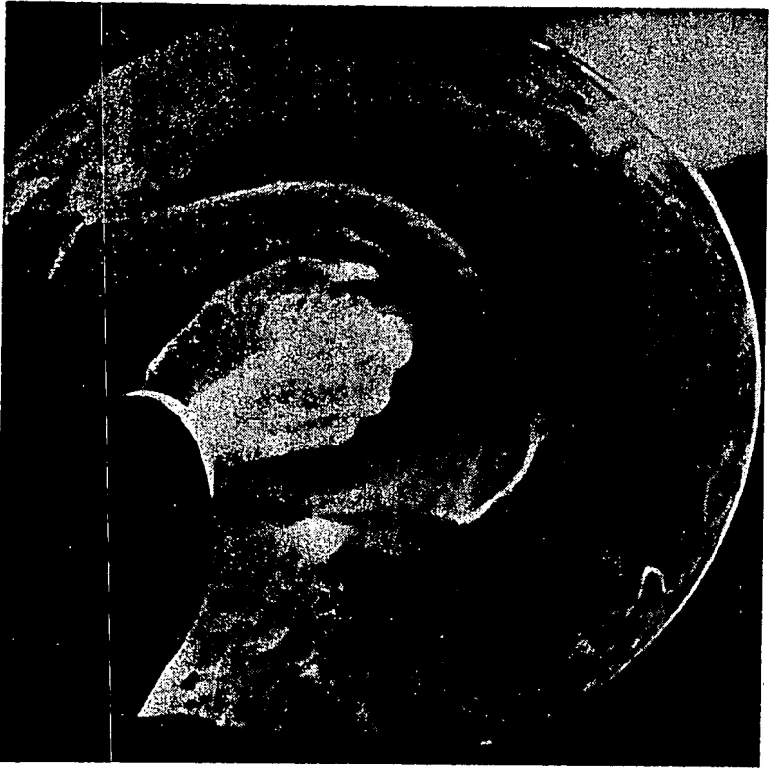


Fig. 5

In Fig. 5 I have shown a hand position which most hornists consider incorrect. I have included it because quite a few hornists, mostly students, but some professionals too, stubbornly cling to it. The bell is almost closed off and produces a muffled sound that carries poorly. This position is likely to create serious intonation problems.

## FOOTNOTES

1. German, *Waldhorn*. French, *corne de chasse*. Italian, *corno da caccia*.
2. Robin Gregory, *the Horn* (Glasgow: the University Press, 1961), p. 28. "According to Mattheson (1713) its tone was 'less raucous than the trumpet's. . . . It produces a rounder tone and fills out the score better than the shrill and deafening trumpets!'"
3. As a point of interest both Harvard and Groves Dictionaries give this date as about 1770. Forsyth Orchestration as about 1754.
4. Hampel was also credited with designing the "Inventionshorn," which was an improved natural horn whose crooks were inserted into sockets in the middle of the hoop instead of directly behind the mouthpiece.
5. It is assumed that the reader realizes that the right hand does not seal the air off completely but merely closes off as much as possible thereby offering great resistance to the air column as it passes around the hand.
6. Some authorities refer to this as lipping the note into place.
7. There is a special metal mute made which approximates the timbre of hand muting. This mute works well in the low register. Like the hand it stops the vibrations beyond its point of contact with the bell and the notes must be transposed to compensate for the rise in pitch. If for some reason a hornist finds that he must hand mute in the low register, I suggest trying to transpose the notes a full step lower instead of the usual half step. Although this definitely will not work on all horns and for all low notes, it may prove helpful on occasion.

Photographs by Israel Borouchoff

# AN EXPLORATORY STUDY IN THE USE OF THE VIOLIN AND RECORDER AS TEACHING TOOLS IN ELEMENTARY SCHOOL MUSIC CLASSES

DR. CHARLES R. HOFFER

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In most elementary schools, the vocal and instrumental music programs have existed side by side for years with little contact or coordination between them. This is an unfortunate situation, not only because it encourages duplication and lack of continuity in what is being taught elementary school students, but more seriously because an opportunity for utilizing the strong points of each type of music instruction has been missed. For example, while sight reading ability can be furthered by singing activity only, improvement in reading is usually more meaningfully and easily accomplished when an instrument is utilized. On the other hand, good vocal music teachers have students engaged in a variety of creative activities, but there seems to be little room for creative work in the instrumental classes.

The violin and recorder were introduced into the curriculum of the two fourth-grade classes at the Meramec School in the School District of Clayton. The purpose of this experimental work was to bring about more music learning than was normally possible in basic music classes. It was hypothesized that an integrated instrumental-vocal class experience would allow for the utilization of teaching techniques and learning experiences that were not possible or probable in the exclusively vocal or instrumental class. The end, therefore, was music learning, with the instruments as an additional means to greater learning. The end was not a pre-band or pre-orchestra program, nor a test of ability or inclination of students for future instrumental study, nor fourth-grade performing groups. Music learning was conceived broadly, to include more accurate and understanding listening, a better comprehension of the musical nomenclature, and increased ability to think in a musical way about sounds and tonal patterns. In other words, the eye, ear, mind, and kinesthetic sense of the pupils were to be involved in the learning experience.

The utilization of violins and recorders, now in its third year, was begun in 1962 with Ann Jackson Kelley as teacher; it has been carried on since 1963 by Barbara Foster Harlow. The overall program was originally conceived by the author, who was in close consultation with the teachers, especially during the first year. Throughout its conception and execution, the entire music faculty discussed and made suggestions regarding the program. Teacher schedules were re-arranged once or twice each year so that interested faculty members had the opportunity to visit the classes.

## Choice of Instrument

To test the idea of using instruments in basic music classes, the violin was chosen for one class, the recorder for another. The violin was selected because 1) the size of the instrument can be adapted to the students, 2) it is a recognized orchestral instrument, unlike the Tonette and others, 3) it requires the player to listen very carefully in order to achieve the proper pitch, unlike the piano, and 4) its range is suitable for performing vocal

music. The recorder was selected instead of the Tonette or Songflute because 1) it has a delicate refined tone, 2) it has a greater range and can play more chromatic notes, 3) it has enjoyed success with school-age youngsters in Europe and Canada, and 4) much good music is available for it.

### **Schedule and Arrangements**

Since the work was highly experimental, and since it involved the expenditure of a considerable sum of money for the instruments, the program was begun in only one school. The fourth-grade level was selected because it is the grade prior to the beginning of the conventional instrumental music study, and because of the higher maturational level of these students as contrasted with the primary grades. It was decided that the classes should be taught by the music specialist who would normally take care of that particular grade, rather than by the instrumental music teacher. This was done to insure that there would be no carry-over of the string teaching techniques from the regular instrumental classes. (Throughout the Clayton elementary schools, music specialists are responsible for almost all of the basic vocal music instruction.)

To remove the pressure of time from the teacher's mind, the experimental classes had music daily, twice each week for 30 minutes and three times for 20 minutes, making a total of 120 minutes each week. The work on the instruments consumed about 80 minutes per week, or two-thirds of the available time. The remainder of the time the teacher continued the normal basic music study. The classes normally would have received music every other day for a period of 30 minutes, or 75 minutes each week.

To offer some basis for evaluating the effectiveness of the integrated program, the teacher of the two experimental classes also continued teaching two fourth grades in another school. With these classes she continued the usual music curriculum.

Choices had to be made with regard to research techniques. The author is fully aware of the usefulness and desirability of research carried on under carefully controlled conditions that can lead to results capable of being subjected to recognized statistical evaluation. However, for several reasons it was decided that this was not possible or desirable in this experimental work. For one, the results sought were several and they were general. The determination of whether or not an activity encourages a youngster to listen to music more precisely is a topic sufficient for an investigation of only that point. It was felt that the experimental work, if successful, would suggest areas in which more precise, controlled studies could be undertaken. Therefore, the word "exploration" might best describe the nature of the experimentation.

Another reason for the use of less precise techniques is one faced by all researchers who are employed by public elementary or secondary schools. Education at this age is compulsory by law, and it is supported solely by society through the means of taxation. Accordingly, experimentation must be handled discriminately, since it involves expenditures of the public's money and the participation of children who are required to attend school. The ethical questions involved here could consume a whole paper. Rather than enter into a detailed discussion of this tangential topic, it is sufficient to state that in the author's opinion, public school

employees may introduce research into the schools only when the experimental work 1) seems likely to produce results that are not detrimental to the learnings of the regular school program, 2) does not drain off effort and resources from the regular curricular program, and 3) is closely related to the regular curricular effort. The second reason applied in this case. It would have required undue effort and expense for Clayton to establish controlled conditions with equated groups and other checks, and to provide the additional teacher time.

Enough violins were provided so that half of the students in the class could play simultaneously. Two students were assigned to an instrument, and they were expected to use the "buddy system" in which each helped the other learn to play. No special violin method book was used. In the class trying the recorder, each class member received an instrument, and a more conventional program was followed. A method book (Priestly and Fowler, SCHOOL RECORDER BOOK I) was used the first year, but it was found to be dull and not helpful, so no book was used in subsequent years.

### **Class Procedures**

To keep the mechanics of playing the violin as simple as possible, the students were not given the bow, nor were they instructed to hold the instrument under the chin. Instead, they held the instrument in banjo position, thereby eliminating some of the posture faults that might have developed.

As a first step, the class was taught to tune the D string only. This process was aided considerably by the fact that all violins had Caspari pegs. In spite of this aid, it was necessary for the teacher to assist the students considerably in their tuning efforts.

Next the students were shown how to play pizzicato E on the D string. No pearl dots or other visual aids on the fingerboard were allowed; the students were forced to rely on their ears. Simultaneously with this experience, the children were shown the notes D and E on the chalkboard, and were encouraged to sing the note names as they played and looked at them.

The class then proceeded in similar manner to F sharp and G on the D string. With each new note the idea of "discovery" was emphasized. For example, if the class was playing F sharp, the teacher would ask, "Now you're playing F sharp. What note would you play if you put your third finger down very close to the second finger?" Sometimes the teacher added another activity. She would say, "Let me see if I can fool you on the notes I am playing. The first note is going to be E." Then she would turn her back to the class and play a three- or four-note pattern on her violin, asking the class to name the notes, sing the phrase back, or play the phrase back. Occasionally she would ask the children to make all three responses simultaneously.

While a music teacher knows that a violin has an open A string, the fourth graders did not; they moved logically to the fourth finger A instead of an open A. A hurdle was encountered when they were asked to find B. Some students were stymied, but most of the class thought that they should just slide the hand up the fingerboard further. Seldom did a child suggest that another string might be considered. After the logic of using the next string was understood, the class was taught to tune the A string, and the work proceeded quickly to B, C sharp and D.

When the notes covering an octave had been learned, it was decided to have the class work with a song in the basal series, so that the singing and playing could be integrated. Songs such as "Annie Went to the Cabbage Patch," from *MUSIC ACROSS OUR COUNTRY* (Follett), were selected—songs in the key of D major with generally step-wise melodies. This presented extra challenge for the pupils, especially when it came to playing the song up to tempo.

The use of the violin engendered other music learning activities. One year the children became interested in what made strings sound higher and lower, which in turn led to the discussion of vibrations and tonal frequencies. Before long the class expressed the desire to make instruments of their own. The teacher agreed, provided that three conditions were met: 1) the materials had to be available around the student's home—nothing could be purchased, 2) parents and older brothers and sisters could not help, and 3) the instrument had to be tunable to the note D. Instruments were constructed by each child in the class, and the results showed much imagination and understanding. One boy created what he called a "bass box," which looked like an oversized banjo and was played upright on the floor like a string bass. The pitch was varied by changing the pressure of the foot on a pedal, which altered the tension of the single string.

The class using the recorders proceeded through a more conventional course of study. When possible, the discovery approach was used, as well as the other listening and reading techniques utilized with the violins. The students played many songs from the recorder method book and from the basal song books.

Surprising as it may seem, the students literally hounded the teacher with requests for permission to practice outside of class. So, after they had had some experience with the violin or recorder, the students were allowed to take them home and practice on their own. No specific homework assignments were given, although suggestions were offered. Students who prepared pieces on their own were given the opportunity to play them for the class. The practice at home also gave students the chance to pick out tunes by ear on their instruments. When a student found a melody, he played it for the class, which then proceeded to put it into notation. This led, in the use of violins, to some familiar melodies in quite unfamiliar keys.

Both classes engaged in the more usual creative activity such as composing a melody. To this the recorders added a second part, which consisted mainly of notes a third above the melody. The class using the violin also did some "orchestrations." For the most part, these consisted of triads for the accompaniment of a melody. The activity necessarily involved the students in a rather intensive study of chords. In both classes the tune fragments were played by the students and then notated.

After a period of approximately four months, the classes reached a level of proficiency that warranted moving the violin from the banjo position to the regular position underneath the chin. Two considerations had to be faced at this point. One was the slight regression experienced in many string classes when the students first try to coordinate the bow and left-hand fingers. As long as sufficient time remained in the school year, it was felt that this could be overcome and the normal progress resumed.

The other matter bore to the heart of why the program was attempted in the first place. If the bow were introduced, would this be a deviation from the original purpose of using the violin as a learning tool? Would the emphasis shift from musical learning to string playing techniques? After serious consideration by the string specialists, the basic music teacher, and the author, it was decided that the maximum musical learnings had been obtained and that further work in string playing was not the most feasible action under the circumstances. Therefore, the two fourth grades exchanged recorders and violins, and the experimental work was repeated.

### **Results and Conclusions**

After three years of experience with the integrated program at the fourth-grade level, the following conclusions appear to be warranted:

1. The ability of the students to hear accurately and to remember what they had heard seemed greatly improved after their participation in the program. They seemed more sensitive to accuracy of pitch, even to the point of noticing that the class record player, which was a variable speed control, had been tampered with and was running slightly slow. They were quicker to recognize a new theme when it was introduced in a composition. In short, they seemed to listen better than the students who had no instrumental experience.

2. The students' attitude seemed to reflect increasing awareness of music as a challenging study, rather than as a diverting activity. While a continual effort was made in the regular sections of basic music to present music as an academic discipline like other subjects in the curriculum, the attitude of students in the experimental classes appeared to be noticeably better.

3. The students' ability to read music was decidedly improved, especially with regard to reading and reproducing pitch level. The increase in reading skill manifested itself in improved sight singing, as well as in reading with the instrument.

4. The exploratory program opened new avenues for the learning and appreciation of theory and simple forms. The attempts to "orchestrate" melodies led naturally to a study of simple chords and key.

5. The students were afforded many opportunities to engage in musical exploration on their own. By ear they picked out tunes they knew, and then related them to notation. They had the chance to consider the pitches involved in accompaniment. They had more than the normal incentive to be creative by making up melodies of their own.

6. The students who had experience with instruments did not sing significantly better than the students of comparable grade level who did not have the experience.

7. The learnings gained in the experimental fourth-grade classes was retained as the students moved on to grades five and six. The results achieved did not represent a temporary spurt of learning that faded away in a few months.

8. A comparison of results achieved by the violin group in contrast with the recorder group indicated that the use of the violin encouraged

students to listen better. More creativity resulted in the classes utilizing the violin. However, the students working with the recorder learned notes faster and were learning to play melodies sooner. They also lost interest in the instrument more easily than the violinists. Thus it appeared that work with the violin was more suited to the achievement of the goals of music instruction as presented initially in this article.

9. When the classes traded instruments shortly after the middle of the year, progress on the second instrument was noticeably faster than on the initial instrument. This was true regardless of the first instrument studied. Apparently some of the learnings of the previous instrumental study did transfer. It should be recalled, however, that the students were also five months older when undertaking the second instrument.

10. Experience with the violin did not seem to affect significantly the students' choice of instrument in the regular instrumental music program in fifth grade. Taking into account variations due to chance, there was a normal distribution in the choice of instruments. The string specialist did report, however, that the students who chose to continue their string experience seemed more ready to begin and made more rapid progress initially than the students from other schools who had not had experience with the violin.

In summary, the use of the instruments, especially the violin, did contribute toward the objective of a fuller understanding of music. The gain achieved with the instruments seemed to be significantly greater than that achieved by the regular program in which no instruments were used.

### **The Future of the Program**

As soon as the time schedule and finances permit, the School District of Clayton will permanently incorporate the violin experience in the music curriculum at the fourth-grade level. Thus, each child may be expected to have about a semester's study with the violin. The recorder will be retained only if the particular music teacher desires.

The employment of the violin and recorder has proved successful under one set of circumstances. It is hoped that the experiment can be replicated in other school systems with other teachers, students, and learning conditions. Only in this way will the validity of the idea be truly tested.



# **AN APPRAISAL OF THE GROUP SINGING OF SIXTH GRADERS, AS TAUGHT BY CLASSROOM TEACHERS, IN TWENTY-FIVE ELEMENTARY SCHOOLS, IN A MIDWESTERN CITY OF 100,000**

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## **ABSTRACT**

Unpublished Doctor of Education, research study, University of Mo., 1962

## **INTRODUCTION**

### **Statement of the Problem**

The basic purpose of this investigation was to determine the musical results in singing achieved by sixth graders in the elementary school classrooms of a city of 100,000 when taught music by classroom teachers. There were three specific facets to be considered:

1. The quality of the singing of the sixth grade children, who had been taught by classroom teachers throughout all their six years of schooling.
2. Analysis of the quality of singing in relation to the criteria of objectives as developed by a composite of selected sources.
3. Analysis of the quality of singing in relation to the professional preparation of teachers of classroom music.

### **Need for the Study**

There seems to be a definite need of more research and study in classroom teaching of music to offset the quantity of material written on the subject, most of which is based on opinion and too little on fact.

Teaching of music by the classroom teacher is one of the most controversial subjects in music education and one that is widely used and practiced. There is a lack of specific, objective information concerning the results of such teaching. The writer is seeking to have some objective data to determine specifically the kind of results achieved by classroom teachers.

### **Limitations of the Problem**

This study was limited as follows:

1. This study was limited to the schools of only one school system. It was necessary to choose elementary school classrooms which had used classroom teachers to carry the full teaching responsibility for the entire six years of the elementary school. Twenty-five such classrooms in twenty-four schools were found, and since all were in the one large system the same objectives were sought in the classroom music, and the same type of music-consultant help was given.

2. The musical experiences of the children outside the classroom were confined entirely to the year of the study. No attempt was made to determine the number of years of previous participation.

3. The amount of time devoted to the outside musical activities was not considered nor was the time devoted to music in the classroom considered as a factor.

4. No attempt was made to discover the number of students who may have come from schools where special music teachers were used.

5. Socio-economic factors, which might have influenced home background, were not under consideration.

### **Status of Elementary School Music**

Through the years elementary music education has consistently followed the lead of general education in philosophy and procedure. In turn, education itself has changed or expanded to meet the needs of changing society.

Today, in general, the elementary classroom teacher with the assistance of a music consultant, is teaching her own classroom music. There is considerable controversy as to whether the classroom teacher is equipped musically to teach the children. Those educators and administrators who put great emphasis on teaching musical skills believe that most elementary classroom teachers are not musically equipped to handle their own classroom music. Other educators and administrators who believe that teaching children to enjoy music is the prime motive for having music, are convinced that the elementary classroom teacher is the most desirable person to teach it. Many elementary classroom teachers themselves feel inadequate in teaching music.

In examining the musical training of the elementary classroom teacher today, it was found that various studies have been made on: (1) the musical experiences that create a favorable attitude toward teaching music; (2) the musical competencies that are needed by classroom teachers; (3) the number of semester credit hours and type of musical experiences needed by the classroom teacher; (4) the feelings of the teachers themselves in regard to their musical experiences.

In the factors affecting the attitude of elementary classroom teachers teaching music, it was found that those who like to teach music had experienced more vocal participation than did those who dislike to teach it.

The musical competencies that are needed by classroom teachers are definitely controversial. Some authorities require many; others suggest a minimum number. All require the ability to sing to some extent, but again the amount of skill desired is extremely varied.

The number of semester credit hours of music training needed by the elementary classroom teacher is also controversial. No decision is reached by the various authorities as to the hours needed, nor the type of musical experiences needed by the teachers.

The various studies indicate that many classroom teachers feel inadequate in teaching music. The teachers themselves feel the greatest weakness of elementary music has been the lack of related classroom experiences, and not enough vocal training.

As may be noted from the beginning of music in the public schools, efforts have been made to provide the elementary classroom teacher with musical experiences that have been adequate for instructing students. It may be seen that the amount of musical training needed has depended upon the prevailing philosophy of the time. At present the amount depends upon the objectives for having music in the classroom. It seems debatable

whether attitude or musical skills is the desired outcome. Therefore, no specific amount or kind of musical experiences can be determined. It is hoped, however, that something may be learned from results obtained from a sampling of singing recorded in a situation where elementary classroom teachers have taught the music throughout a six-year elementary program. This study is concerned with the musical experiences of the teachers that have led to the rating results obtained from the recordings.

### Techniques of Collecting Data

The writer approached the director of music education and the director of curriculum in Topeka, Kansas, a city where the classroom teachers had been teaching their own music since 1951 with the assistance of music consultants. Permission was asked for, and granted, to record the singing of the sixth grades of 24 schools. These 24 did not include all the elementary schools of Topeka, but since several of the schools had been annexed during the last three or four years and had previously been using special music teachers, it was decided to confine the study to those schools which had been in the system in 1951. The next step was to arrange the scheduling of the recordings, which was done in conjunction with the three elementary vocal music consultants.

Arrangements were made with the teachers to record 25 sixth grades in these 24 schools. It was decided to make the recordings during the last two weeks of school in order that the children could complete six years of music under a classroom teacher. The recordings were all made in the regular classroom, the gymnasium, or auditorium, where the classroom music was generally taught.

All the teachers in the public schools of Topeka must have degrees so all the teachers used in this study had at least a bachelor's degree. In the hiring of teachers, the musical background of each is given some consideration. One of the elementary vocal consultants is usually included on the committee for the selecting of teachers.

The children of the Topeka schools are allowed to start at five, provided they will be six by January so the general age range in the six grades was from approximately 11 years, 5 months to 12 years, 5 months. There were a total of 818 sixth grade children whose voices were recorded, which makes an average of 32.7 children in each room. However, there were three schools with two sixth grade classrooms whose custom it was to combine the classroom music. Consequently, the number of boys and girls singing in each school varies from 25 to 56.

Because the recording of these songs in the various schools was carried out under different sound conditions, it was impossible to record every school in exactly the same manner as one would have been able to do in a recording studio. However, to minimize this problem, the same recording machine, microphone, and brand of tape was used for each school. The recording machine used was a Tandberg Tape Recorder, No. 4. The tape was Irish Recording Tape, 1½ Mil. Acetate, one-quarter inch, on a seven-inch reel. The duplicate copies of these recordings were made on the same type of recorder and tape.

The songs recorded were not especially prepared and practiced for the recordings, but were simply those chosen by the teachers from the year's repertoire of songs. The teachers were asked to choose a two- or three-part song which they felt the class could perform.

The schools were duly visited and the recordings made. While at each school an interview schedule was administered by the writer to the teachers to ascertain their musical background.

Effort was made to determine: (1) the amount and kind of pre-college instrumental training, (2) the amount and kind of pre-college vocal training, (3) high school music courses, other than applied music, (4) college music courses, (5) kind and amount of applied music in college, (6) the extent of musical experiences during student teaching, (7) number of years' experience teaching classroom music.

The next step was to find some means of evaluating the recordings of the singing of the children. It was finally decided to use the services of seven experienced teachers of music. They were representatives of music consultants at various levels. There were two city and one county consultant, one college and one university music consultant, a director of music education in a large city system, and a music editor for the publishing company of the music series used in the city under survey.

The objectives of sixth grade singing as developed from a composite of sources were the foundation for arriving at the categories on an evaluation sheet prepared for the consultants. The form used was patterned after the adjudication form used by the "National Interscholastic Music Activities Commission."<sup>1</sup> It is reproduced below:

## APPRAISAL SURVEY OF SIXTH GRADE TEACHERS

### Evaluation Sheet

Name of School..... Number of Singers.....

Music Selection..... Rating.....

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MUSICAL ACCURACY (including intonation)

TONE (beauty, blend, control)

DICTION (clarity of consonants, naturalness, purity of vowels)

TECHNIQUE (breathing, precision, rhythm)

HARMONY

INTERPRETATION (expression, phrasing, style, tempo)

OTHER FACTORS

-----  
Judge's Signature

-----  
Position

The consultants were sent a duplicate copy of the tapes and evaluations forms for each school to be rated. The ratings were to be assigned on the basis of a "Suggestion Sheet" enclosed with the recordings. This "Suggestion Sheet" was prepared from STANDARDS OF ADJUDICATION,<sup>2</sup> a manual of suggestions regarding the adjudication of Music Competition-Festivals. This manual uses a five division plan with a Rating I, Superior; Rating

II, Excellent; Rating III, Good; Rating IV, Fair; and Rating V, Below Average. The consultants were asked to follow this five division plan in making their evaluations of each tape.

### Analysis of the Sixth Grade Singing

When the ratings of the recordings were returned, all were tabulated. The mean rating of the seven music consultants for singing for each sixth grade was found. Then the mean rating for each of the six musical factors for each school was found. These were tabulated so that the ratings between schools could be compared. Also, every musical factor could be compared with each of the other musical factors, and again, these could all be compared between schools. A sample of the tabulations is given in Table I.

**TABLE I**  
**MUSIC CONSULTANTS' RATING OF SINGING OF**  
**TWENTY-FIVE SIXTH GRADE CLASSES**

School	Consultants							Mean Rating of Consultants
	A	B	C	D	E	F	G	
19	1	2	1	1	1	1	3	1.4
23	1	2	1	1	1	2	2	1.4
2	2	3	2	2	1	1	3	2.0
10	1	3	2	1	2	2	3	2.0
22	2	3	2	1	2	1	4	2.1
1	2	3	2	2	2	1	4	2.3
9	1	3	3	1	2	2	4	2.3
18	2	4	3	1	2	2	4	2.6
8	3	3	2	2	3	2	4	2.7
11	1	3	3	2	2	4	4	2.7
15	1	3	3	4	2	2	4	2.7
13	2	4	3	2	2	3	4	2.9
16	2	4	4	3	3	1	3	2.9
20	2	3	3	3	3	3	4	3.0
21	1	3	4	1	4	3	5	3.0
24	3	3	3	1	3	4	4	3.0
5	2	3	3	3	2	3	5	3.0
12	3	4	3	2	3	2	5	3.1
25	2	3	3	3	3	4	4	3.1
4	3	2	4	3	3	3	5	3.3
6	3	4	4	4	3	3	4	3.6
7	3	4	4	4	3	3	4	3.6
14	4	4	4	3	2	4	5	3.7
3	3	4	4	4	4	4	5	4.0
17	4	3	4	5	3	4	5	4.0

Mean rating of sixth grade singing for all schools—2.8

Range of ratings from 1.4 to 4.0.

## Ratings of Singing of Sixth Grade Pupils Compared With Teacher Preparation and Pupil Out-of-Class Musical Experiences

The musical training of the classroom teachers would seem to be a vital factor in the results of any elementary school music program. The experiences found to be most important in the musical training of the teachers as compared with their classroom musical ratings were those obtained during the years in college. Table II shows the college musical training of the teachers.

**TABLE II**  
**COLLEGE MUSICAL TRAINING OF TEACHERS OF CLASSES**  
**IN CITY SYSTEM INVESTIGATED**

College Course	Number of Teachers	Per Cent
Music for Elementary Grades . . . . .	14	56
Piano . . . . .	7	28
Music Appreciation . . . . .	5	20
Voice . . . . .	5	20
Chorus . . . . .	5	20
Other Instrument . . . . .	4	16
Music History . . . . .	4	16
Theory . . . . .	4	16
Harmony . . . . .	3	12
Other . . . . .	3	12
Teaching Instruments . . . . .	2	8
Band . . . . .	2	8
Music Curriculum . . . . .	1	4
Music Student Teaching . . . . .	1	4
Orchestration . . . . .	1	4
Conducting . . . . .	1	4
Sight-Singing . . . . .	1	4
Total number of teachers taking courses . . . . .	18	
Per cent of teachers taking courses . . . . .		72

It may be seen that one course, Music for Elementary Grades or its equivalent, had the highest number of teachers who had taken such a course. If the ratings of the music classes of the teachers who took Music for Elementary Grades are compared with those classes whose teachers did not take the course, there seems to be a consistently higher trend in the ratings. A comparison of the ratings for those teachers who had taken the music methods course and the teachers who had not taken the course may be seen in Table III.

**TABLE III**  
**COMPARISONS OF CONSULTANTS' RATINGS OF SINGING OF**  
**SIXTH GRADE PUPILS AND TEACHERS TAKING OR**  
**NOT TAKING MUSIC METHODS**

	Music Methods	No Music Methods
	1.4	2.0
	1.4	2.3
	2.0	2.9
	2.1	2.9
	2.3	3.0
	2.6	3.3
	2.7	3.6
	2.7	3.6
	2.7	3.7
	3.0	4.0
	3.0	4.0
	2.1	
	3.1	
	4.0	
Total Teachers.....	14	11
Mean Rating.....	2.4	3.2

The mean rating of the classes of the teachers who took a music methods course was 2.4 compared with a mean rating of 3.2 for the classes of the 11 teachers who did not take a music methods course. This would appear to show considerable difference. To determine whether there is any significant difference a chi-square test of independence in a fourfold contingency table 3 was used. A chi-square of 4.44 was obtained. With one degree of freedom it was found a P was between .02 and .05, and hence chi-square is significant, showing a significant relationship between the teachers' training in a music methods course and the ratings received by her pupils.

Another aspect of the teacher's training is that of applied music in college. Table IV shows a comparison of the ratings of each class and the teachers who had some applied music and those who did not have any applied music in college.

**TABLE IV**  
**COMPARISONS OF CONSULTANTS' RATING OF SINGING OF**  
**SIXTH GRADE PUPILS AND TEACHERS HAVING OR**  
**NOT HAVING APPLIED MUSIC IN COLLEGE**

	Applied Music	No Applied Music
	1.4	2.1
	1.4	2.3
	2.0	2.7
	2.0	2.7
	2.3	2.9
	2.6	3.0
	2.7	3.0
	2.9	3.0
	3.0	3.1
	3.1	3.3
	3.3	3.6
	3.7	4.0
		4.0
Total Teachers.....	12	13
Mean Rating.....	2.5	3.8

It may be seen that 12 of the 25 teachers had some applied music, either vocal or instrumental, in college. The mean rating of the pupils of these teachers was 2.5, compared with a mean rating of 3.8 achieved by the pupils of the teachers who had taken no applied music in college. In order to determine whether this represented any significant difference the chi-square test of independence in a fourfold contingency table was used to obtain a chi-square of 5.29. With one degree of freedom this gave a P of between .02 and .05 and is significant of the .05 level of significance, showing a significant relationship between the applied music training of the teachers and the ratings of their pupils.

Still another area of the teachers' preparation was that of the music teaching experiences of the teacher while doing practice teaching. It was found that eight of the 25 teachers had some experience teaching music during the practice teaching period. Table V shows a comparison of the consultants' rating and teachers with or without music teaching experience during practice teaching.



**TABLE V**

**COMPARISONS OF CONSULTANTS' RATINGS OF SINGING OF SIXTH GRADE PUPILS WITH OR WITHOUT MUSIC TEACHING EXPERIENCE DURING PRACTICE TEACHING**

	Music Teaching Experience During Practice Teaching	Without Music Teaching Experience During Practice Teaching
	1.4	1.4
	2.0	2.0
	2.3	2.1
	2.6	2.3
	2.7	2.7
	2.9	2.7
	3.0	2.9
	3.1	3.0
		3.0
		3.0
		3.1
		3.3
		3.6
		3.6
		3.7
		4.0
		4.0
Total Teachers.....	8	17
Mean Rating.....	2.5	3.2

Testing the difference between the mean rating, 2.5, of the pupils with teachers having music teaching experience in practice teaching and the mean rating of 3.2 of the pupils whose teachers did not have music teaching experience in practice teaching, the chi-square test in a four-fold table was again used. A chi-square of 2.89 was obtained. With one degree of freedom it was found that P was between .95 and .10 and is thus not significant to show any relationship between the ratings and teachers who did or did not have experience teaching music during their practice teaching.

Table VI makes a comparison of the training in music of teachers in the five highest rated schools with the music training of teachers in the five lowest rated schools. It may be seen in the table that there is a difference of 2.02 in the mean rating of the highest rated schools compared with the mean rating of the lowest rated schools. By inspection this difference of more than two ratings appears significant. In the area of piano training there is a difference of 3.4 years in the number of years of training. Using

Garrett's formula for the reliability of the difference between means in small independent samples,

$$SD = \frac{1}{D} \sqrt{\frac{E \times 2}{(N-1)}}$$

significant difference at the .01 level was obtained.<sup>3</sup> Using the same formula, no significant difference was found in the means for the teaching experience of the highest and lowest rated schools.

**TABLE VI**  
**COMPARISON OF MUSICAL TRAINING OF TEACHERS IN THE FIVE HIGHEST RATED SCHOOLS WITH THE MUSICAL TRAINING OF TEACHERS IN THE FIVE LOWEST RATED SCHOOLS**

	Means of Teachers, Highest Rated Schools	Means of Teachers, Lowest Rated Schools
Ratings.....	1.78	3.8
Piano Training.....	5.0 Years	1.6 Years
Teaching Experience.....	14.0 Years	10.8 Years
High School Vocal Participation.....	3.2 Years	2.4 Years
Music Methods Course.....	1.0 Course	0.2 Course
College Music Courses.....	2.4 Courses	0.8 Courses
College Applied Music.....	1.2 Courses	0.4 Courses
College Ensemble Experience.....	1.0 Year	0.4 Year
General Music, High School.....	0.4 Course	0.2 Course
Other Instrumental Training.....	2.2 Years	2.0 Years

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

1. This study was to determine the quality of singing when taught by classroom teachers (non-music specialists). It has been determined that the singing of sixth grade children in this study is adequate to a quality above the middle on a scale of 5.

2. The most effective course in the training of teachers to teach music is Music for Elementary Grades or its equivalent.

3. Applied music in college was found to be significant in the preparation of teachers.

4. Piano training of teachers was found to be significant in the preparation of teachers.

5. The music training and experience of the classroom teachers is extremely varied. If this is typical of classroom teachers, then elementary classroom teachers have more music than might be anticipated.

6. With the amount of time spent on music in the classroom, the background and training of both the children and teachers, the students performed very well.

## Recommendations

As a result of the findings and interpretations of this study, and in addition to the conclusions which have been drawn from them, the following recommendations in the form of further research, are recommended:

1. Because of the small sampling involved, some of the comparisons between teachers' experiences and the ratings of their classrooms show only slight relationship. It is felt that if a similar study could be done on a larger scale, something could be learned of the type of musical experiences that are most helpful to classroom teachers in their preparation for teaching classroom music. This could be of considerable value in planning the musical training of the classroom teacher in which there is general uncertainty.
2. A comparison of the results between schools in which classroom teachers teach the classroom music and the results from schools in which special music teachers teach the classroom music should be made. This would give some indication as to whether there is significant difference between the musical results from teaching by special music teachers and classroom teachers.
3. Since the Music Methods course, Music for Elementary Grades has been of tangible aid in helping classroom teachers to teach classroom music, it is recommended that this course be a requirement for all teachers teaching their own music. A significant relationship between applied music training of teachers and the ratings received by their classes indicates that some applied music should be required of all teachers teaching their own music.
4. The teachers' piano training and vocal participation in high school music groups showed no significant relationship to the ratings received by their pupils. However, further studies and comparisons need to be made in these two fields to see if a significant relationship does exist in a larger sampling.
5. More information is needed on the value of musical experiences for the elementary student teachers. Since the comparison of ratings of classes and teachers' experience teaching music during practice teaching was close to the .05 level of significance, it would appear that such experience could be made valuable.
6. More study needs to be given to pre-college musical experiences of students anticipating teaching careers.
7. If the development of musical skill in children is desired as one of the goals in classroom music, then more study could be made on the musical activities outside the classroom which are of most value in developing these skills.
8. More study needs to be made of elementary music education. There is much which needs to be learned about all phases of elementary music education.

## FOOTNOTES

1. *Official Adjudication Form*. (Washington, D. C.: "National Interscholastic Music Activities Commission," Music Educators National Conference, 1958.)
2. *Standards of Adjudication, A Manual of Suggestions Regarding the Adjudication of Music Competition-Festivals*. (Washington, D. C.: National Interscholastic Music Activities Commission, Music Educators National Conference.)
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## **CRITIQUE I: CHARLES H. HANSFORD'S STUDY OF GROUP SINGING OF SIXTH GRADERS TAUGHT BY CLASSROOM TEACHERS**

**DR. PAUL W. MATHEWS**

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This Research Study of Dr. Charles Hansford is of special concern to those who are interested in the long controversy between educators who feel the need of special teachers of music and other subjects in the elementary schools, and those who believe elementary education is best served if the burden of the classroom teaching in all fields, including music, falls to the classroom teacher, herself.

Fair minded music educators have long seen that there is merit on both sides of the issue, but a large number of the more realistic ones have concluded long ago that, regardless of the merits or demerits of the situation, music will continue to be taught by the regular classroom teachers in a vast number of school systems, and that our obvious problem, therefore, is to improve as much as possible the music instruction by these classroom teachers. Alert and skillful supervision is of tremendous importance, so are pre-service and in-service instruction for the teacher.

This study by Dr. Hansford undertakes to appraise the effectiveness of classroom music teaching by the regular classroom teacher in one

selected school system, and to consider the preparation and training of these teachers, largely of a pre-service nature. While the study is a limited one, it is of a kind which is needed. Further similar studies in other locations can render a real service in continuing to appraise the music teaching of the elementary school classroom teachers, and in helping to point the way toward the improvement of this teaching. Dr. Hansford has made a good contribution toward further understanding of the problem.

### **CRITIQUE III: CHARLES H. HANSFORD'S STUDY OF GROUP SINGING OF SIXTH GRADERS TAUGHT BY CLASSROOM TEACHERS**

**DR. CHARLES R. HOFFER**

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The use of the classroom teacher as the teacher of music in the elementary school is a topic that has been much debated. It is an area much in need of research, and Hansford is to be commended for attempting to clarify the issues involved. His study concerns the singing skills achieved by sixth graders when taught by classroom teachers. Unfortunately, several of the procedures used in the course of his investigation badly dissipate the usefulness of the information obtained.

Essentially the study sought to evaluate the singing of 25 sixth grade classrooms in terms of a five point scale developed by the researcher. It was at this initial stage that the quality of the research began to suffer. It appears that the study became victim of a fallacy common to many pieces of research: the notion that the interpretation of a phenomenon in terms of statistics, even when the relationship between the numbers and the phenomenon is not clearly established, in some mystical way makes for solid data. Of what value is it to know that 25 sixth grade rooms in a certain city sang at a mean rating of 2.8 on a five point scale? Does this tell us that classroom teachers are good (or bad) music teachers? Since the scale is not one in use by the profession, there can be no comparative data from other teaching situations. Then, how does 2.8 compare with the results achieved with the teaching efforts of music specialists, whose work was not studied at all? Should music educators be satisfied with 2.8? No one can tell. Unfortunately the numbers 2.8 out of 5 do not provide much useful information.

Another error in the development of the five point scale concerns objectives and criteria. Initially Hansford speaks about "the criteria of objectives." The two words are not synonymous, as seems to be implied. Perhaps this explains some of the fuzziness about the relationship between the evaluation sheet and the statement of objectives which he cites. What was needed for this study was a carefully worked out set of criteria pertinent to the objectives of the singing experience. Instead of asking adjudicators to comment on pitch in general, and to interpret the comment in terms of a numerical scale, would it not have been better to have all rooms sing the same song and then from each tape to select certain pitches for electronic pitch analysis? When diction was evaluated, would it not have been better to select certain problem places involving diction for discrete adjudication? If this type of investigation had been conducted, specific criteria could have been established that could be related meaningfully to a numerical rating. For example, the song was sung with a mean

deviation of x cents from the proper pitch, and the "d" on the word "Lord" was audibly present. These demonstrable aspects of performance would be worth x number of points on the basis of spelled out criteria.

The evaluation sheet, developed to record the appraisal of the seven adjudicators, bears little relation to the objectives formulated by the researcher. The evaluation sheet lists technique, musical accuracy, diction, tone; it resembles strongly the NIMAC forms published by the MENC. The objectives are different. They include "developing the will to sing," building "an acquaintance with a wide variety of song literature," gaining "vocal independence," increasing "the skill in reading music from notation," and having "experience singing with small and large groups." While singing "with increasing understanding" and developing "the skillful use of the singing voice" are two additional objectives cited, it is clear that the research will shed little light on the overall effectiveness of the classroom teacher as a teacher of music.

Another serious weakness in the study is the lack of controlled conditions. Granted, in fields that study people and their actions, controlled conditions are impossible to achieve perfectly. This does not, however, excuse a researcher from striving for the maximum degree of control. This study lacked some controls that could have been achieved without undue effort. For one, the 25 classrooms could have sung the same songs for the evaluators to adjudicate. Since the selection of songs for the audition tape was left to each teacher, a variable was introduced that could considerably alter the rating given. Another variable was introduced when the taping was done in different rooms under varying conditions. While the researcher was careful to use the same type of machine and tape, this would hardly compensate for the wide range of acoustical conditions that must have been encountered. Nor was an attempt made to analyze statistically the variations in ratings among the adjudicators. Perhaps the variations were due to the varied selection of songs and to the lack of precise criteria for the adjudicators to use. In any event, the differences in ratings given the same room should have been taken into consideration.

In this study only entire classrooms were studied. Probably for this piece of research this limitation was acceptable. However, before definitive conclusions can be drawn about teaching practices, it would seem necessary to study the actions of individuals in the classroom, even if only on a sample basis. Room X may sing well, but it may do so because a few strong singers are carrying the brunt of the performance, or because the teacher told the shaky singers not to sing at all. The variables are too numerous and too great to stop short of considering individual children. While a far greater effort is required to evaluate individual performance, it is probably the only way that in the end will provide solid data.

The latter portions of Hansford's study do provide some interesting information, even though it must be regarded as being highly tentative for the reasons already indicated in this critique. Most music educators have believed that the elementary music methods course was well worthwhile. It is good to have some research that supports this belief. The usefulness of applied music for the classroom teacher is a point not often brought out. It is one to which music educators in teacher training institutions could give more consideration.



Conclusion 6 is unsupportable. The study did not consider the amount of time spent on music in the classroom, so any mention of this factor cannot be supported by the study. Nor was the background of the children and teachers studied. Since there were no precise performance criteria, it cannot accurately be said "the students performed very well."

The recommendations for further research are, on the whole, good. Some are general and not closely related to the study. Another recommendation might well be added to Hansford's list. That recommendation would be that another study be undertaken appraising the singing of sixth graders taught by classroom teachers and music specialists. This second study would evaluate the singing of groups and individuals on the basis of precise and carefully thought out criteria under highly controlled conditions. Such a study, if properly conducted, would provide the profession with valuable research data, something that Hansford's study in large measure failed to do.