Applications of Research in Music Education

The National Association for Music Education
SIGHT-SINGING SYSTEMS:
CURRENT PRACTICE AND
SURVEY OF ALL-STATE CHORISTERS

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Music educators generally agree that sight-singing is the ability to convert music notation into sound upon initial presentation. Such sounds may be conceived internally, referred to as audiation (Gordon, 1997) or aural imagery (Radocy & Boyle, 1979) and then produced externally through the voice (Hodges, 1992; Consortium for National Arts Education Associations, 1994). The ability to sing music on sight is considered a fundamental goal of music education and a key to the development of an independent music learner (Collins, 1993; Consortium, 1994; Scott, 1995). Current sight-singing practice includes complex skills that require the singer to combine melodic pitches with temporal values (rhythms), dynamics, and articulation symbols. To develop these skills, a variety of systems are being used throughout the United States (Blum, 1968; More, 1985; Phillips, 1984). Commonly used melodic pitch systems include the following: (1) interval names (e.g., perfect fourth, major third); (2) inflected letter-names (e.g., G, G-sharp); (3) non-inflected names (e.g., “G” for G and G-sharp); (4) fixed-do (e.g., do = C, di = C-sharp); (5) scale-degree numbers (e.g., 1 = tonic in both major and minor); (6) scale-degree numbers (e.g., I = tonic in major, and 6 = tonic in minor); (7) movable-do (e.g., do = tonic in both major and minor); (8) movable-do (e.g., do = tonic in major, and la = tonic in minor); and (9) neutral syllable (e.g., lah, lah, lah). Commonly used rhythm systems include time-value note names, syllables and names based on time-value note names, mnemonic word devices, rhythm numbers, and syllables based on beat functions (Gordon, 1997; Pembrook & Riggins, 1990).

Although a variety of sight-singing systems are available to music educators, researchers have found that many singers are unsuccessful at reading the music that they perform (Miller, 1980; Scott, 1996) and that sight-singing instruction remains one of the weakest components in the teaching of choral music (Costanza & Russell, 1992; p. 501). A recent study, whose results support this assertion (Scott, 1996), consisted of a holistic, criterion-referenced sight-singing test for high school sopranos based on the voluntary national standards for choral music education. Subjects included 120 high school sopranos from four Illinois high schools. Results indicated that none of the singers could sight-sing at achievement levels established by the National Standards.

Such striking findings should compel the music education community to address the question, "Who is responsible for these sight-singing deficiencies?" One body of research suggests that many elementary and secondary music teachers fail to develop formal strategies for teaching and assessing students' individual sight-singing skills (Henry & Demorest, 1994; Johnson, 1987; Parker, 1979; Szabo, 1992). Another body of research suggests that some teacher preparation programs fail to provide music education majors with the necessary and appropriate tools to teach sight-singing effectively (McClung, 1996; Smith, 1998; Verrastro & Leglar, 1992). Music teacher educators explain that because there is neither a foundation of research to support nor a consensus to promote the effectiveness of any one sight-singing system over another, educators of music teachers are circumstantially pressured to offer students brief learning experiences in a wide variety of systems, leaving too little time for mastery of any single system (Collins, 1979; Costanza & Russell, 1992; Davidson, Scripp, & Fletcher, 1995; Scott, 1995). The lack of pedagogical mastery of any one sight-singing system can result in on-the-job-training in which the teacher attempts to adapt diverse experiences into a set of fragmented sight-singing strategies.

Due to the lack of conclusive or persuasive research
on the most effective sight-singing system, the debate over which system is best suited for teaching sight-singing is frequently intense, emotional, and ultimately based on subjective personal preference. In an early attempt to analyze and compare the movable-do system of sight-singing to the fixed-do system, Buchanan (1946), concerned by the excessive use of rote teaching, wrote, "What passes for sight singing may be more accurately described as sight guessing, aided by piano or voice, which provides a model to be imitated" (p. iii).

In the 1950s, Siler (1956) asserted that a movable-tonic system was the worst system for teaching sight-singing, and that the best suited system was one that employed a fixed-do. Bentley (1959) challenged Siler's assertion and concluded that the movable-tonic system was more effective for teaching sight-singing skills. In the years to follow, the debate appears to have narrowed: The exchange of ideas centered on how the method of teaching the minor mode should be treated within the context of a movable-tonic system. Houlahan and Tacka (1990; 1992) exchanged intense viewpoints with Smith (1991; 1992). Houlahan and Tacka promoted the do-tonic major/la-tonic minor system for teaching sight-singing and aural skills, and Smith (1991; 1992) supported the system that used do-tonic in both major and minor. Although the debate over the most effective sight-singing system was thoughtfully discussed, their dialogue ended without agreement and complex questions remained. In 1993, Steve Larson published the following conclusion:

It is impossible to say—in the abstract—that any one solfège system is superior to another. Specific solfège systems should be chosen for specific students, for specific educational objectives, and for specific repertoires. And every solfège system has the honor of being the best system for at least one given purpose. (p. 115)

Larson continued to explain that although every sight-singing system may indeed have some positive attributes, given the general purpose of a sight-singing system within the educational setting, all sight-singing systems are not equal and which system is used does matter.

The intensity of the debate over sight-singing systems produced a number of studies that investigated a variety of issues related to sight-singing, including issues that centered on sight-singing system preferences. In 1979, Irma Collins surveyed 346 college and university music departments that held full membership in the National Association of Schools of Music. Results from the 233 surveys returned produced several conclusions: (1) sight-singing in the theory curriculum is not given enough time; (2) colleagues do not fully support the need for sight-singing; (3) music education majors do not have any more sight-singing requirements than performance majors; and (4) preferred sight-singing systems included movable-do using syllables as a means for solmization, movable-do using numbers as a means for solmization, and the neutral syllables loo and lah.

Pembroke and Biggins (1990) surveyed 908 colleges and universities in the U.S. that offered any type of baccalaureate degree in music; respondents included college instructors of freshman and sophomore sight-singing classes. Out of the 306 usable returned surveys, 279 responded to the question regarding sight-singing system preferences. Respondents could check more than one category. The response percentages were as follows: (a) scale-degree numbers (1 = tonic in major and minor) = 45%; (b) neutral syllables such as lah = 37%; (c) movable-do (do = tonic in major and minor) = 35%; (d) movable-do (do = tonic in major, and la = tonic in minor) = 30%; (e) inflected letter names (e.g., "G-sharp") = 12%; (f) fixed-do with chromatic inflections (do = C, di = C-sharp, etc.) = 10%; (g) non-inflected letter names (e.g., "G" for G and G-sharp) = 7%; (h) fixed-do without chromatic inflections (do = C and C-sharp) = 6%; and (i) scale-degree numbers (1 = tonic in major, and 6 = tonic in minor) = 5%.

In 1993, John May conducted a descriptive study of the directors of select mixed choirs in 927 secondary schools of Texas. Results were based on 192 schools. System preferences included the following results: (a) movable-do = 82.30%; (b) numbers = 8.85%; (c) fixed-do = 5.73%; (d) intervals = 1.04%; and (e) all other systems = 2.08%. A recent study to include survey questions regarding sight-singing preferences was conducted by Susan Smith (1998). Respondents were randomly selected Florida choral directors who enrolled ninth- and tenth-grade students (N = 151). Response options included "frequently," "sometimes," and "never." Results indicated that the systems used with the most frequency were movable-do with la minor (42.9%); intervals by singing a familiar tune (37.4%); and scale degree numbers (34.2%). However, when combining the "frequently" and "sometimes" option responses, a different picture emerges: intervals by singing a familiar tune = 37.8%; neutral syllables = 71.4%; melody pitch numbers = 65.1%; movable-do with la-minor = 61.2%; and intervals by exact name = 61.2%. The system which received the "never" response included fixed-do with do-minor (87.5%); fixed-do with la-minor (85.4%); modified scale degree numbers (76.2%), and movable-do with do-minor (67.8%).

As choral music educators strive to develop independent music learners and to incorporate the National Standards into local music curriculums, it
becomes increasingly important to have objective data that describe current practices in such a manner that music educators at all levels can make informed decisions; decisions that promote basic uniformity among music curriculums, effective pedagogical practices, and positive learning outcomes. This need becomes more critical as our society becomes increasingly mobile.

It is not unusual for a child to attend a number of different schools and to be exposed to a wide variety of sight-singing systems and note-learning philosophies. Such exposure may indeed be perceived as a positive instructional outcome, but exposure without mastery is inconsistent with the ultimate goal of developing independent music learners. To make informed curriculum decisions regarding which sight-singing system to use, music educators need additional objective data on a broader national scale.

The purpose of this study was to add to the existing research by investigating current sight-singing systems used in the high school choral music performance classrooms by All-State Choristers in the following six southeastern states: Arkansas, Alabama, Georgia, Louisiana, Tennessee, and Mississippi. The following research question was the basis of this study: “To what degree are various sight-singing systems used in the high school choral performance classrooms of All-State Choristers?”

**Method**

The respondents in this study consisted of members of senior high All-State choruses in the following six southeastern states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, and Tennessee (N = 2,115). Data were collected from May 1995 through March 1998. Permission to conduct the survey was obtained from each All-State choral chairperson and each choir’s guest conductor. The survey was administered by the researcher and/or research assistants during a rehearsal break. A questionnaire was developed for brevity and simplicity and consisted of one question: “In which sight-singing system have you received the most instruction?” Written instructions required the respondent to place a check by the most appropriate answer and to return the survey before leaving the room. The return rate was 100%.

**Results and Discussion**

Table 1 provides the total number of responses for each state, the overall responses, a state-by-state mean percentage of the total number of responses for each sight-singing system, and the overall percentages for each sight-singing system. The sight-singing system to receive the highest number of responses was the melody pitch numbers system, followed by movable-do, neutral syllables, other, and fixed-do.

Results from this study suggest the following conclusions. A state-by-state computation of the responses indicated that movable-do was the sight-singing system most frequently chosen by the respondents in Louisiana (49.5%). The remaining five states indicated that melody pitch numbers was the sight-singing system in which the largest number of respondents received the most sight-singing instruction: Alabama (67%), Arkansas (80%), Georgia (70%), Tennessee (33%), and Mississippi (43%). A mean percentage, calculated from the total number of study respondents, produced the following results: (a) melody pitch numbers (58%), (b) movable-do (19%), neutral syllables (13%), other (6%), and fixed-do (4%). These data support similar findings in the work of Pembrook & Riggins (1990), who surveyed college and university instructors of freshman and sophomore sight-singing classes throughout the United States.

However, this finding conflicts with the results of Smith’s (1998) survey of high school choral music instructors in Florida and with the results of May’s (1993) survey of high school choral music instructors in Texas. Smith concluded that movable-do (44%) was the most frequently used system in Florida; however, when combining the “frequently” option responses with the “sometimes” option responses, results indicated that melody pitch numbers were used by 65.1% and that movable-do with la-minor was used by 61.2% of the respondents.

<table>
<thead>
<tr>
<th>Overview of Responses: In which sight-reading system have you received the most instruction?</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>(N = 2,115)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total responses</td>
<td>AL</td>
<td>AR</td>
<td>GA</td>
<td>LA</td>
<td>TN</td>
</tr>
<tr>
<td>Melody pitch numbers</td>
<td>676</td>
<td>195</td>
<td>605</td>
<td>142</td>
<td>384</td>
</tr>
<tr>
<td>Fixed-do</td>
<td>1%</td>
<td>1%</td>
<td>4%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Moveable-do</td>
<td>15%</td>
<td>9%</td>
<td>12%</td>
<td>49%</td>
<td>26%</td>
</tr>
<tr>
<td>Neutral syllables</td>
<td>9%</td>
<td>8%</td>
<td>9%</td>
<td>22%</td>
<td>21%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
<td>3%</td>
<td>4%</td>
<td>6%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Note. Column head abbreviations represent Alabama, Arkansas, Georgia, Louisiana, Tennessee, and Mississippi.
students. The most used sight-singing system in Texas, May concluded, was moveable-
do (82.3%).

The search for the most effective system to teach sight-singing is inconclusive; however, a summary of
the research studies on sight-singing agree that a moveable-tonic is the dominant sight-singing system
and that the two systems used to teach the moveable-
tonic are, in dominance order, melody pitch numbers and moveable-
do. Less conclusive evidence is available
from existing research as to whether the movable-tonic system uses do = tonic in the major "keyality"
(Gordon, 1997, p. 139) and a la = tonic in the minor keyality or do = tonic in both major and
minor. Response options in the Pembrook and Riggins (1990) study of college and university instruc-
tors of sight-singing included this delineation and found that melody pitch numbers (scale-degree num-
bers) in which f = tonic in both major and minor was the most preferred system and that movable-do, in
which do = tonic in both major and minor, was the
second most preferred system. These results conflict
with the results from Smith's (1998) survey of high
school choral music instructors in Florida and with the
results from May's (1993) survey of high school choral
music instructors in Texas. Smith found the preferred
approach to be movable-do in which do = tonic in the
major and la = tonic in the minor. She also found that
67.8% of the respondents never used movable-do with
a do-minor. She did not apply this delineation to
the melody pitch numbers option. May (1993) found that
68.75% of his respondents preferred the relative minor
approach, which would allow for either a la = tonic or
6 = tonic approach. The system-specific options were
not included in the Collins' (1979) study or in the present
study. Based on present research, conclusions regarding tonic preference in the minor mode require
conjecture in need of further study.

Such conjecture might include that classroom
choral performance teachers need a pragmatic
approach to sight-singing that is easy for teachers to
teach and for students to grasp. The relative natural
minor mode uses no altered tones and is sung (6-7-1-
2-3-4-5-6) or (la-si-do-re-me-fa-so-la). The lack of
altered tones may explain why choral performance
teachers choose the Gila = tonic approach to the minor
mode. The theory teacher, on the other hand, needs a
pragmatic sight-singing system that more readily
transfers to written theory. The parallel minor (1-2-3
flat-4-5-6 flat-7 flat-1) or (do-na-ma-fa-so-le-re-do),
with the tonic remaining constant between the major
and minor modes, may be perceived as having more
immediate transfer to written theory.

Readers should also be advised that existing
research has not found significant evidence that corre-
lates a system's popularity with effective outcomes.

Related studies in sight-singing do suggest that the
system used to teach sight-singing may not be as
important as how the teacher teaches (Brittain, 1998;
Munn, (1990), White, (1983), and Cutietta (1979)
concur that positive results can be produced by using
a systematic approach to sight-singing that incorpo-
rates drill. Instrumental studies, especially piano, were
found to increase sight-singing proficiency (Daniels,
1986; Demorest & May, 1995; Henry & Demorest,
concluded that group success alone was not a valid
indicator of individual sight-singing achievement and
others have strongly suggested that greater attention
should be given to assessing sight-singing skills on an
individual basis (McClung, 1996; MENC, 1996).
Finally, Rose Daniels (1986) concluded from her
study that one of the most powerful success indicators
was the music teacher's attitude:

Students are more likely to learn to sight-
sing effectively if the development of sight-
singing skills is treated as a major objective for
the high school chorus. ... It can be safely
assumed that a teacher, who believes that cho-
rus students should learn to read music, will
find ways to develop within students some
degree of sight-singing and that any effort
made toward this goal will be more beneficial
than no effort at all. (p.288)

An analysis of the findings of the presently available
sight-singing research provides some important con-
clusions to consider. The results of this study com-
pared with the results of other available studies that
have investigated the prevalent usage of various sight-
singing systems suggest three conclusions: (a) the
dominant techniques used in solmization are melody
pitch numbers and solfege syllables, (b) the dominant
system for teaching sight-singing is the movable-tonic
system, and (c) the suggested system most widely used
to teach the movable-tonic system is melody pitch num-
bers and the second system most widely used to teach
the movable-tonic system is moveable-do. The findings
in May (1993) and Smith (1998) offer an additional
conclusion to consider. These authors reported that the
Gila = tonic system was the dominant system used by
choral performance teachers in Texas and Florida to
teach the minor mode. From the available research,
these findings offer music educators insight into the
most widely used sight-singing systems.

Should music educators choose to develop and pro-
mote a uniform and common sight-singing approach,
based on the most widely used systems, the following ele-
ments should be thoughtfully considered: (a) the use of a
I do movable-tonic; (b) the use of melody pitch numbers or solfège syllables as a means for solmization; and (c) the use of the natural minor mode with a 6la tonic. A common sight-singing approach could be promoted by including clearly designed written materials for the beginning and practicing choral performance classroom teachers, augmented by sight-singing pedagogy courses and workshops. Additional promotion would encourage the publication of journal articles and the inclusion of professional forums, designed to encourage music researchers, music theory professors, music method professors, All-State conductors, honor choir conductors, and college choir conductors to value and promote the elements of a uniform and common sight-singing approach.

To develop a common approach to sight-singing responsibly and to fill a need for positive learning outcomes, additional research is necessary. Studies to determine the effective outcomes of sight-singing preferences, including the specific elements of pitch-reading and rhythm-reading, need to be conducted in all states. The development of a research-based sight-singing system would provide teachers with more answers and fewer questions. If a teacher is to be held accountable for teaching sight-singing, it may be fair to suggest that more answers and fewer questions can be a very good thing.

References


MENC. (1996). Performance standards for music: Strategies and benchmarks for assessing progress toward the national stan-
Applications are being accepted for the combined post of editor and chair of the editorial committee for Update: Applications of Research in Music Education. The editor will begin duties on August 1, 2002, and continue through July 31, 2003. Applicant must: (1) Be a member of the Society for Research in Music Education at the time of initial nomination. (2) Be a professional music educator who has received national recognition as a researcher in music as evidenced by academic training in research and by an outstanding, continuing record of high-quality research and research publication in music. (3) Have successful, contractual teaching experience in elementary, junior high, or senior high music. (4) Have at least two years' experience as either an editor (chair) or as a member of an editorial committee for a professional music or music-related journal. (5) Assure the Music Education Research Council (MERC) willingness and ability to volunteer the necessary time to carry out the duties as editor (chair) of Update, excluding the time spent by an editorial assistant (see Qualification 6 below). (6) Assure MERC that his or her employing institution will support the applicant's tenure as editor (chair) in terms of released time, use of facilities, and contribution of an editorial assistant (averaging 12 hours per week). This support must be assured for the entire 6-year term. (7) Resign, if elected, from any other national leadership post currently held in the Society for Research in Music Education.

The applicant must provide the MERC Chair with the following documentation in support of his or her candidacy: (A) Complete curriculum vitae, to include degrees earned, with special areas of study, employment history, publications, presentations at professional meetings, awards, offices held in the profession, and any other information that may be helpful in establishing the applicant's qualifications. (B) Letter signed by the applicant, assuring MERC of his or her willingness to be responsible to the position in terms of both duties and time. (C) Letter signed by the applicant's employer, assuring the conditions stated in Qualification 6 (above). (D) Three letters of recommendation from nationally recognized researchers in music, testifying to the applicant's qualifications. Items A through C must be postmarked no later than January 14 and sent in a single package to Roseanne K. Rosenthal, Vanderbilt College of Music, 3140 South Federal Street, Chicago, IL 60615. Applicants must request that the three letters of recommendation (item D) be sent directly to Roseanne Rosenthal, also postmarked no later than January 14, 2002. A maximum of six candidates will be selected at a MERC meeting at the MENC National Biennial Inservice Conference, April 2002. From this list of candidates, the National Executive Board of MENC will appoint the new editor (chair) of Update at its meeting in July 2002.