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# The Effect of Rhythmic Notation on Undergraduate Music Majors' Choice of Tempo

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One requisite area of musicianship identified by most music educators is the ability of students to determine tempo by identifying the steady beat. In her book T*he Kodály Method,* a detailed discourse on the application of Kodály's philosophy of music education, Lois Choksy (1998) identified the steady beat as the foundational concept to be learned before all other musical skills. Because many studies present evidence as to the influence of tempo on pitch perception (Duke, Geringer, & Madsen 1988), rhythm perception (Wang, 1983), rhythm organization and notational value (Duke, 1994; Madsen, Duke, Geringer, 1986), and music preference (Brittin, 2000), the instruction of "steady beat" carries great significance to music literacy as a whole.

In one study, musicians were presented with an un-pitched stimulus to evaluate their perception of beat (Duke, 1989b). Although Duke cautions that we should be careful in making inference beyond his results due to the nonmusical nature of the stimulus, the results of this study indicate that musicians readily identify the beat at tempi between 60 to 120 bpm. When the tempo fell in this range, the subjects tapped along with the stimulus. When the tempo was slower than 60 bpm, the subjects tapped subdivisions of the given beat, thus they tapped faster than the stimulus. When the tempo was faster than 120 bpm, the subjects perceived the faster stimulus as subdivisions of a slower beat, thus they tapped slower than the stimulus.

In his study on the effect of tempo, meter, and melodic complexity on tempo perception, Kuhn (1987) found a tendency among elementary students to identify tempo in relation to melodic rhythm. "Ornamented versions of melodies were identified as being faster than plain versions, which suggests that melodic rhythm requires less cognitive abstraction than does beat" (Kuhn, p. 165). "Beat is an abstraction that requires the perceiver to first process melodic rhythm, and then to abstract the pulse based on perception of melodic rhythms that can be patterns based on the divisions of beats or based on the combination of beats or parts of beats" (Kuhn, p. 174).

Kuhn suggested that melodic rhythm is an easier concept than beat and should be taught before beat. He hypothesized that the sound relationship between the beat and the notational value may influence subjects' tendency to equate melodic rhythm with tempo. The notational value of the plain versions of the melodies equaled the notational values of the beat. To the listener in such a scenario, more sounds occurring in the same duration may give the impression

of greater speed. "If that is the case, it suggests that tempo perception is influenced by the melodic rhythm" (Kuhn, 1987, p. 174).

Kuhn and Booth (1988) explored the effect of melodic activity, tempo change, and audible beat on elementary school students' perception of tempo via two experiments. Although subjects in the first experiment were "taught" how to determine the tempo by identifying the beat, they perceived melodic activity as the crucial factor in determining tempo. In the second experiment, the presence of extreme tempi did not override the influence of melodic rhythm. Respondents, when asked to determine the tempo, were influenced by the melodic activity.

Duke's (1989a) study used extant musical examples to explore the relationship of melodic rhythm on the perception of tempo. Elementary students and college undergraduates compared four different chaconne variations that comprised different levels of melodic activity and performed in various tempo relationships. In cases where melodic content changed but tempo remained the same, the perception of tempo was linked to the melodic content. When both tempo and melodic content changed in opposition to each other, subjects' accuracy was lower. As Duke stated, "The results of the study seem to indicate clearly that the variable of melodic rhythm plays an important role in listener's assessments of tempo relationships" (1989a, p. 255). An untrained listeners' tempo perception seems tied to the relative speed of musical events in time, in addition to the relative speed of tempo beats. "It seems implicit… that the relative tempo judgments of listeners with limited musical training may be greatly confounded by the melodic content of the musical examples employed in the discrimination tasks" (Duke, 1989a, p. 256).

Duke (1994) studied whether subjects could identify previously heard rhythmic phrases despite changes in tempo and found that one's organization of rhythm is influenced greatly by the pulse rate. Duke explained that if the cognitive organization of rhythm is based on a durational relationship between the steady beat and rhythm, then the perception of rhythmic organization will remain the same despite different tempi. He further wrote that individuals who lack extensive musical training tend to select tempo based on their perception of rhythmic groupings. In other words, tempo will have an affect on the perception of rhythmic organization. This conclusion has profound repercussions in the classroom. Students in a music classroom are often expected to transfer knowledge of previously learned rhythm patterns into new material. This task may be accomplished if the previously learned rhythmic groupings in the new material are performed at the same tempo as they were first learned (Duke & Pierce, 1991). If the tempo of the new material differs from the original, the students may not be able transfer the learned rhythm patterns, thus the music teacher may falsely assume that the students perceive rhythm independently of tempo.

Ellis' study (1992) certainly validates the work of the music teacher. In the study, subjects in lower elementary grade levels (3rd and 4th) readily focused on melodic activity as the determining factor for perception of tempo. If the melody was complex, the subjects perceived the tempo as fast. If the melody was simple, the tempo was perceived as slow. However, the results of the study indicated training was a factor in students' ability to perceive tempo. Subjects in higher elementary grade levels (5th and 6th) were able to conceptualize the tempo in spite of melodic activity as a result of their music training.

In a related study, Duke, Geringer, and Madsen (1991) studied an individual's performance of perceived beat in relation to age and music training. Subjects (junior high and senior high students; undergraduate and graduate music majors) were presented a series of un-pitched stimuli that ranged from 40 to 240 bpm. The subjects were asked to listen to each example and to demonstrate the perceived beat by tapping or pulsing with finger or hand. Within the tempo range of 70 to 120 bpm, all subjects seem to respond similarly. Those with considerably more

training were indeed able to abstract the beat tempi by subdivision or grouping periodic tones outside the above mentioned range.

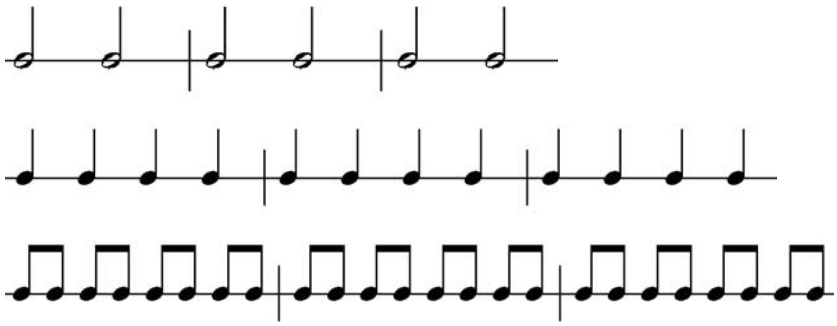
The preceding research seems to confirm the results of B.L. Linger's doctoral dissertation (1966). In his research, Linger identified the behavior of musical notation as either (1) direct or (2) indirect. Direct notational symbols are those whose meanings are fixed (e.g., pitch and pitch relationships). Indirect notational symbols are those whose meanings are variable and relative to other existing conditions. Linger was interested in determining whether subjects viewed rhythm as a direct or as indirect notation. He hypothesized that there would be a greater degree of performance accuracy and a greater variance of selected tempo for performing when notational patterns were perceived as indirect symbols. Using six rhythmic patterns from existing musical literature, Linger created 18 tests in which his subjects were presented one of the patterns in three ways: the original notation, the augmentation of the notation, and the diminution of the notation. The results of his study indicated a significant difference between the degree of performance accuracy and a significant difference in choice of tempo when subjects performed the rhythmic patterns under the assumption that rhythmic notation was an indirect representation.

Linger's research was of particular interest in the research conducted by Kuhn and Gates (1975) on the effects of notational values, age, and example length on tempo performance accuracy. According to their research, different notational value did not influence tempo. This point is important to repeat. Linger (1966) reported that different notational values do influence tempo, while Kuhn and Gates (1975) in contradiction to the findings of Linger maintained that different notational values do not influence tempo. As Kuhn & Gates explain,

> [Linger] maintained that "the visual appearance of a rhythmic pattern appears to be one of the primary influences in the process of establishing a tempo for performing the pattern." Linger's subjects were asked to choose a beat tempo and perform rhythms notated with several different beat-note values…. [Linger explained that ] there appears to be a direct relationship between the beginning notes of a pattern and the choice of tempo for performing the entire pattern. If, for example, the beginning notes are half-notes, the tempo is slower; if the beginning notes are quarter-notes the tempo is faster, regardless of the notes in the remainder of the pattern. (Kuhn & Gates, 1975, pp. 204-205)

The remedy to this contradiction is found quite simply in comparing methodology and applying new insights gleaned from research conducted after both studies. In a study reported by Duke (1989b), "Regarding subjects' identification of preferred notation to represent the beat, it is apparent that musicians most often conceptualize beat notes as quarter-note values" (p. 68). Kuhn & Gates (1975) acknowledged that the discrepancy between the findings of their study and the findings of Linger's study (1966) lies in methodology. In the Kuhn and Gates study (1975), subjects were presented three visual stimuli of notated rhythm, each a total of 12 beats (Table 1).

Table 1
*Kuhn & Gates Rhythmic Pattern Stimuli (Kuhn & Gates, 1975 p. 206)*



In addition, subjects were given an audible tempo stimulus of 90 bpm by metronome, which discontinued as the subjects began to clap the rhythmic phrase.

Putting all the pieces together, if subjects readily identify the presentation of an audible stimulus between 60 and 120 bpm as the beat, and if subjects conceptualize the notational value of the beat as quarter-notes (Duke, 1989b), then Kuhn & Gates (1975) may have supplied the subjects of their experiment a tempo which was perceived by the subjects as the speed of passing quarter-notes. If this is indeed true, it should come as no surprise that the notational value had no affect on the subjects' performance tempo accuracy in Kuhn and Gates' study. The quarter-note would have been the marker for the beat, and the performance of each rhythm would reflect the quarter-note as the beat note. Examining the differences between their results and Linger's (1966), Kuhn and Gates (1975) observe,

> This disparity is probably due to the difference in the structured testing situations: Linger's subjects were expected to choose their own tempo . . . whereas the subjects in this study were given a standard tempo to reproduce . . . notation does suggest tempo to a performer unless a beat-note tempo is given." (p. 209)

This study was designed to assess the effect of rhythmic notational value on individuals' choice of tempo where no beat-note tempo is given and no suggestion is given as to which note value is the beat-note.

## Method

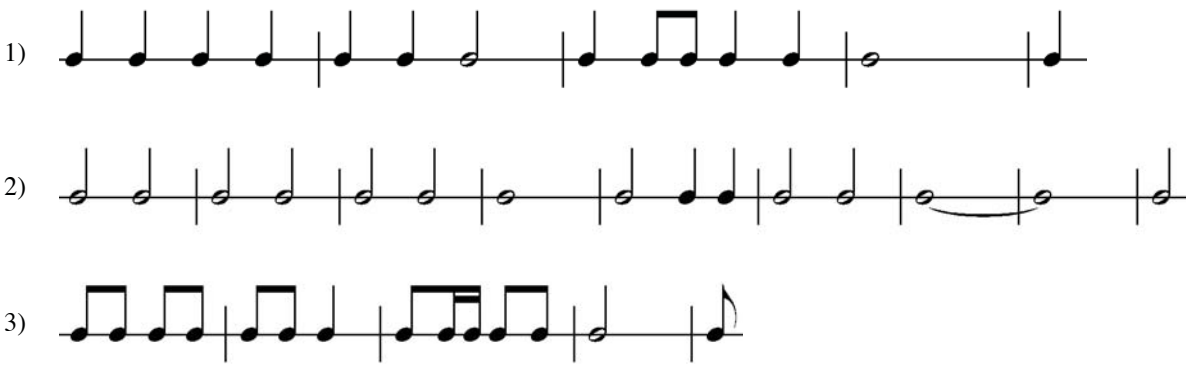
Undergraduate music majors ($N$=90) at a large southwestern university were chosen as subjects. All subjects were tested individually at scheduled times.

Three rhythmic patterns (Table 2) were arranged in 6 counterbalanced groups to account for possible order effects, and subjects were randomly assigned to each order. With the intent to avoid contamination based on an implied tempo, the researcher composed an original 16-beat rhythmic pattern which pilot testing ($n$=10) revealed had no resemblance to any known song or melodic phrase. In addition, the results of the pilot study suggested that beamed eighth notes versus flagged eighth notes had no effect on the performance of the rhythm's tempo so I

followed the convention of beaming paired eighth notes; however, the results of the pilot study did suggest that the presentation order of the stimuli does significantly affect the performance tempo. Although grouped by measure bar-lines, no meter sign was presented in any of the three rhythmic patterns. The removal of a meter sign is an attempt to remove bias for a particular beat-note value.

Subjects were given verbal and written instructions to perform the rhythmic patterns verbally or percussively (*e.g.,* hand clapping). No information was given as to meter or suggested tempo. The data obtained was recorded into an HP Pavilion ze4300 series laptop via a Sony Net MD Walkman MZ-N707 Type-R and rendered into MP3 format. Using *Audacity 1.2.3* (Audacity Development Group), free audio editing software, the recording was displayed visually as a graph, which allowed me to view and edit the data to include only the subjects' performance. I used the software's built-in timer to determine the length in seconds of each subjects' responses.

Table 2
*Rhythmic Patterns*




## Results

Data consisted of scores recorded in the number seconds for each subject's performance of the three rhythmic patterns. The order of stimuli as presented to each subject according to group is displayed in Table 3, and Table 4 displays the mean scores of all 6 groups ranked in order from fastest to slowest performance times of the quarter-note pattern.

Table 3
*Presentation Order of 3 Rhythmic Patterns among 6 Groups*

| group | | | |
|---|---|---|---|
| 1 | quarter-note | eighth-note | half-note |
| 2 | half-note | quarter-note | eighth-note |
| 3 | eighth-note | quarter-note | half-note |
| 4 | quarter-note | half-note | eighth-note |
| 5 | eighth-note | quarter-note | half-note |
| 6 | half-note | eighth-note | quarter-note |

Table 4
*Mean Performance Scores for 3 Rhythmic Patterns among 6 Groups*

| | quarter-note | | eighth-note | | half-note | |
|---|---|---|---|---|---|---|
| group | seconds | tempo (bpm) | second | tempo (bpm) | seconds | tempo (bpm) |
| 2 | 9.07 | 112 | 5.80 | 176 | 17.67 | 58 |
| 3 | 9.87 | 103 | 5.67 | 180 | 17.80 | 57 |
| 4 | 10.07 | 101 | 5.53 | 184 | 18.93 | 54 |
| 6 | 10.20 | 100 | 6.33 | 161 | 17.27 | 59 |
| 1 | 10.67 | 96 | 5.60 | 182 | 16.47 | 62 |
| 5 | 11.60 | 88 | 7.07 | 144 | 19.53 | 52 |

A 6 X 3 Analysis of Variance with Repeated Measures was administered to the individual scores comparing the quarter-note, eighth-note, and half-note performances among the six groups. Summary statistics for the ANOVA are displayed in Table 5. Results indicated that there exist no significant differences in performance scores between-subjects among the six groups ($p > .05$). In addition, there was no significant interaction between the effects of rhythm and group, indicating the order-effect that appeared in the pilot study ($n$=10) was distributed among the six groups rendering the order-effect null ($p > .10$).

Table 5
*Results of 6X3 ANOVA (Group x Notation)*

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| rhythm | 6599.252 | 2 | 3299.626 | 556.663 | < .0001 |
| group | 109.752 | 5 | 21.95 | 2.223 | .059 |
| Rhythm x group | 64.259 | 10 | 6.426 | 1.084 | .377 |
| error | 829.511 | 84 | 9.875 | | |

The graph in Figure 1 displays the estimated marginal means of tempo among the 6 groups. There is a tendency to choose a tempo for the eight-note and half-note patterns that is some approximate ratio to their chosen quarter-note tempo.

I considered each group as a sample among the population of 90 subjects, and I conducted a One-Way Analysis of Variance comparing the quarter-note, eighth-note, and half-note performance times independently among the six groups.

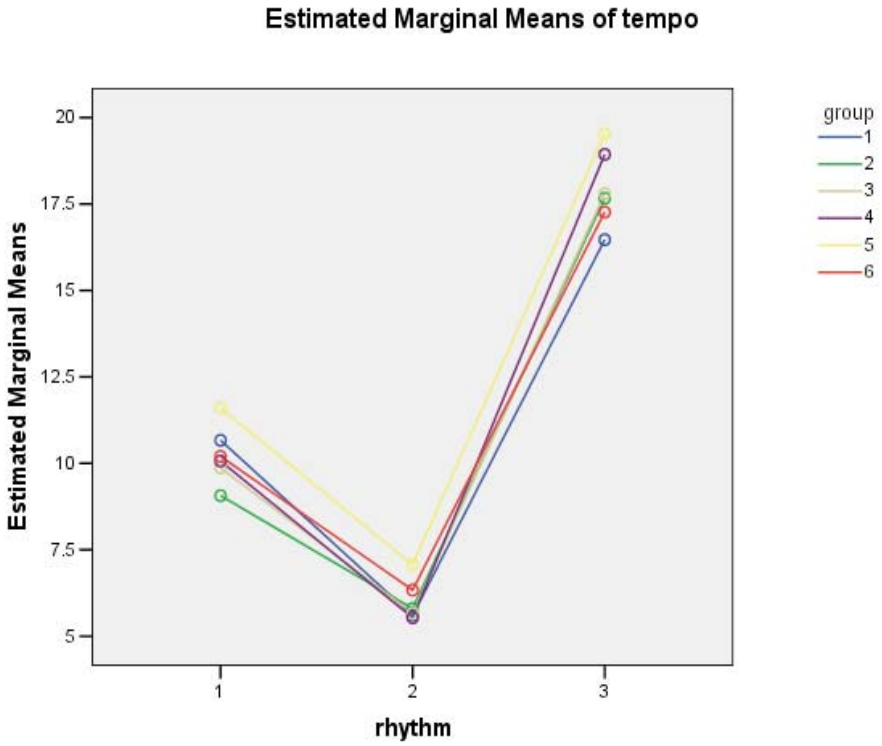



*Figure 1.* Estimated marginal means of tempo among groups.

Summary statistics for the ANOVA are displayed in Table 6.

Table 6
*Results of One-Way Analysis of Variance*

| | | Sum of Squares | df | Mean Squares | F | Sig. |
|---|---|---|---|---|---|---|
| quarter | Between Groups | 53.689 | 5 | 10.738 | 2.615 | .030 |
| | Within Groups | 344.933 | 84 | 4.103 | | |
| | Total | 398.622 | 89 | | | |
| | | Sum of Squares | df | Mean Squares | F | Sig. |
| eighth | Between Groups | 26.667 | 5 | 5.333 | 3.262 | .010 |
| | Within Groups | 137.333 | 84 | 1.635 | | |
| | Total | 164.000 | 89 | | | |
| | | Sum of Squares | df | Mean Squares | F | Sig. |
| half | Between Groups | 93.656 | 5 | 18.731 | 1.172 | .330 |
| | Within Groups | 1343.067 | 84 | 15.989 | | |
| | Total | 1436.722 | 89 | | | |

Results indicate a significant difference among the quarter-note scores ($p < .05$) and the eighth-note scores ($p < .05$), but no significant difference among the half-note scores ($p > .10$).

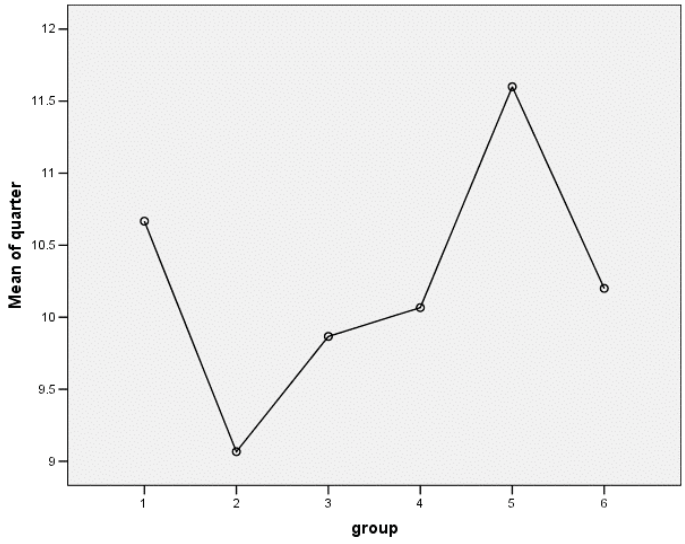



*Figure 2.* Mean performance scores of the quarter-note pattern.

After finding that significant differences occurred in the quarter-note and eighth-note patterns, I conducted a multiple comparisons test utilizing Tukey HSD analysis. The mean performance scores for the quarter-note (Figure 2) highlight the significant difference in time

between Group 2 and Group 5. Figure 3 displays the mean performance scores of the eighth-note pattern. Group 5 is significantly different in performance scores for the eighth-note pattern from Groups 1, 3, and 4.

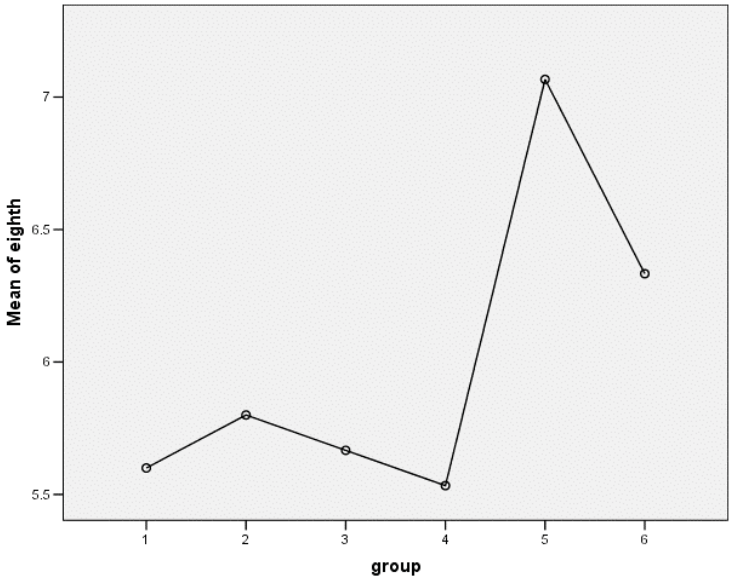



*Figure 3*. Mean performance scores of the eighth-note pattern.

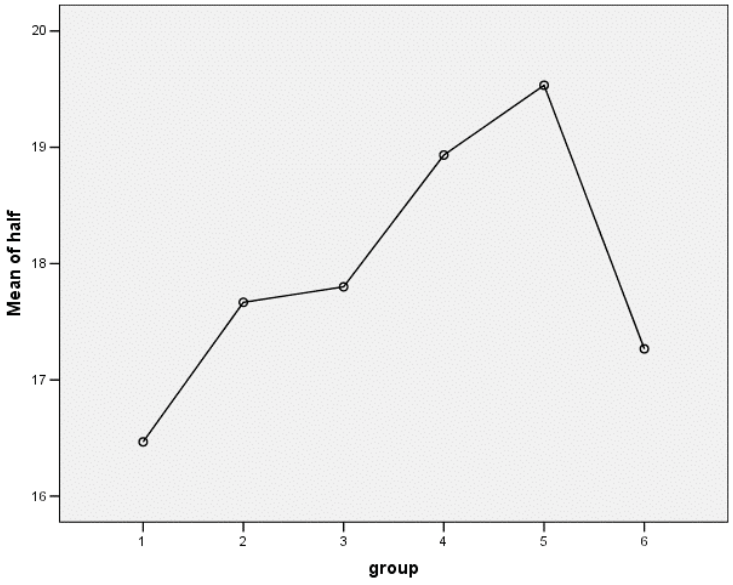



*Figure 4*. Mean performance scores of the half-note pattern.

The data point to some general conclusions about the influence of notation on the choice of tempo. To what degree the order of stimuli affected subjects' choice of tempo varies and is

difficult to pinpoint. Upon deeper investigation, the order-effect seems to be greater on subjects in Group 5, as this group demonstrates a greater discrepancy in performance times for all three rhythmic patterns.

Though the order of stimuli seems to affect individual choice of tempo, the data indicate subjects' tendency to keep their eighth-note and half-note tempi relational to their quarter-note tempi (see Figure 1). This suggest that subjects viewed the quarter-note as the beat note and maintained this beat note value somewhat consistently for all three stimuli. Informal observation during the experiment supports this conclusion. In cases where subjects counted out-loud, the eighth-note patterns were counted as 1 *te* 2 *te* etc. and the half-note patterns were counted as 1 3 1 3 etc. This finding is consistent with Duke (1989b).

## Discussion

In his doctoral dissertation (1966), Linger postulated that the influence of rhythmic notation might affect a performer's choice of tempo if the notation was seen as an indirect representation (i.e., relative to other existing conditions within the music). The results of his study indicated that when subjects chose a tempo based on the rhythmic notation the tempo did vary. Later reports from Kuhn and Gates (1975) indicated that notation did not influence tempo if subjects were given an audible stimulus that was identified as the beat. It was quite probable that this difference in methodology produced the different findings.

The insight gained from Duke (1989b) shed light on this relationship between notation, beat, and tempo. In his study, subjects identified the beat as that which falls between tempi of 60 and 120 bpm, and subjects most readily identify the quarter-note as the beat note. Anything outside this range is some fraction or multiple of the quarter-note.

The present study was designed to examine the effect rhythmic notation has on performers' choice of tempo. The initial question, "Does notation influence choice of tempo?" can be answered in the affirmative, which is consistent with Linger (1966). Moreover, the results obtained by Duke (1989b) enabled a better understanding of how notation affects the performer's choice. Simply, subjects' choice of tempo varied due to notation and presentation order, but the tempi chosen were based on fractions and multiples of the quarter-note as the beat note.

Though significant differences occurred with tempo choices for the selected notational pattern between some groups, a result of an order effect, no group chose tempi contradictory to Duke (1989b) with one exception that will be discussed more fully. In other words, the quarter-note tempi for Groups 2 and 5 differed significantly because each presentation of the quarter-note pattern was preceded by the half-note pattern (Group 2) and the eighth-note pattern (Group 5). However, the mean tempo for the quarter-note pattern for all groups (Groups 1, 2, 3, 4, 5, and 6) fell between 88 and 112 bpm consistent with Duke (1989b).

The same conclusion is drawn for the significant differences found between eighth-note tempi choices for Groups 1, 3, 4, and 5. Order-effect influenced the tempi chosen, but the quarter-note remained the beat note value, as evidenced by the fact that the mean tempo for the eighth-note pattern among all 6 groups fell between 144 and 184 bpm.

Although there were no significant differences in tempi choice among the 6 groups for the half-note pattern, it appears that subjects chose tempi of which the quarter-note remained the beat note value. The mean tempi for the half-note pattern for all 6 groups fell between 52 and 62 bpm. Informal observation of subjects who counted the half-note pattern out-loud revealed a common trend to count 1 3 1 3 etc., indicating that subjects viewed the quarter-note as the beat note. It is interesting to note that the mean tempo for the half-note pattern for Group 1 was 62

beats per minute. This would suggest subjects viewed the half-note as the beat (Duke 1989b). On closer inspection of this group, only 3 of the 15 subjects chose a half-note tempo that was exactly the same as their quarter-note tempo; the remaining subjects chose a tempo that was a multiple of their quarter-note beat value. Although seven other subjects chose a half-note tempo that was similar to their quarter-note tempo, only one other subject chose a tempo that was exactly the same as their quarter-note tempo; this occurred in Group 5 in which the half-note pattern follows the quarter-note pattern directly. All four subjects (three from Group 1 and one from Group 5) were instrumentalists, and 2 of the 4 subjects counted out-loud counting the half-note as the beat (e.g., 1 2 1 2).

The present study produced results consistent with those reported by Duke (1989b), leading me to believe that a reproduction of this study with a larger sample size for each group might reveal a stronger occurrence of the mean tempo for the half-note pattern in Group 1 to fall below 60 bpm. The design of this study differed from Linger (1966) in that I composed my own rhythmic phrases and omitted meter signatures. Linger used extant music examples. Similar to Linger (1966) I applied augmentation and diminution to my rhythmic pattern to create three rhythmic examples similar in rhythmic grouping but distinct in rhythmic notation. Unlike Kuhn and Gates (1975), I supplied no audible stimulus to my subjects (instead subjects were asked to simply perform the rhythmic pattern they saw).

Examination of the disparity among group mean scores suggests that participants chose a faster tempo when presented with the half-note pattern first (Groups 2 and 6) and slower tempo when the eighth-note pattern was presented first (Groups 3 and 5). Again it should be noted that the tempo variation centers around a beat note value that is the quarter-note, and it seems that this value is transferred to the resulting patterns. In other words, when subjects in Group 5 were presented the eighth-note pattern first, they chose a slower quarter-note beat value to allow for accuracy of the rhythmic pattern. The mean tempo for this eighth-note pattern was 144 bpm, suggesting a quarter-note beat value of 72 bpm. This slow value for the quarter-note was apparently transferred, although not perfectly, to the second rhythmic pattern constructed of quarter-notes and had a mean tempo 87 bpm. This amounts to a difference in the expected tempo of 72 bpm and the actual tempo of 87 bpm by a factor of 15 bpm. It appears subjects may have locked in this quarter-note tempo, subsequently transferring the tempo to the half-note pattern of 52 bpm.

Despite the order-effect on the initial and subsequent tempi, the overwhelming majority of subjects in all groups varied tempi according to notation (Linger 1966) and chose tempi that reflected the quarter-note as the beat note value (Duke 1989b).

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# The Perceived Value of Professional Membership Among Pre-Service and Early-Career Music Educators

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One of the most critical challenges facing the field of music education today is the retention of qualified teachers. The demand for music teachers is rising, yet the number of students in universities training to become music teachers is declining (Asmus, 1999). A recent research report published by the National Association for Music Education (MENC) (Hill, 2003) indicates that in the United States approximately 11,000 new music teachers are needed annually to replace those who leave; however, only about 5,500 new music educators join the profession each year.

Research indicates that professional organizations can play a vital role in the retention of early career music educators through workshops and conferences, as well as providing a mentoring network. DeLorenzo (1992) conducted a study addressing the perceived problems of beginning music teachers. She discovered that beginning teachers consider mentor teachers, colleagues in the music field, and dialogue with other music teachers at workshops and conferences as providing the most helpful support. DeLorenzo concluded that collaboration with experienced music educators in either mentoring or in other professional relationships is of particular importance to beginning music teachers. Conway, Krueger, Robinson, Haack & Smith (2002) add that strong mentor relationships can have a positive impact on the retention and success of beginning music teachers.

Most professional music organizations encourage both pre-service and in-service teachers to participate in professional development activities. Conferences and workshops provide music teachers the opportunity to converse with fellow professionals and to develop collegial relationships (Madsen & Hancock, 2002). In her study of beginning music teachers, Krueger (2000) reported that issues surrounding support in combination with feelings of isolation affect both job satisfaction and teacher attrition, particularly for new teachers. Madsen & Hancock (2002) suggested that "the effect of interaction with other music teachers and former music professors at state and nation-level conferences should not be underestimated and may actually provide some type of therapeutic service for music educators" (p. 15).

The importance of professional music conferences and workshops is reflected in the attendance rate of music educators. A study of music educators conducted by Madsen & Hancock (2002) found that 86% of employed music teachers regularly attend conferences and/or workshops in their field with 59% of the respondents reporting that they attend more than once a

year. In a study of early-career Texas music educators, Killian & Baker (2004) found that 96% of their respondents attended at least one music conference a year.

Perhaps the high attendance at professional conferences and workshops is an indication that music educators seek content-specific training. Conway, Krueger, Robinson, Haack & Smith (2002) reported that music educators need professional development opportunities that are designed specifically for their needs. Although many of the needs of early career music teachers are similar to the needs reported by general classroom teachers, it is obvious that beginning music teachers need more discipline-specific assistance due to the context of the music classroom. DeLorenzo (1992) reported that "beginning teachers express a strong need for workshops and in-service programs that provide practical, hands-on strategies for the music classroom" (p. 22).

Conway et al. (2002) maintained that mentor programs should be implemented from within state arts organizations. They reported that a number of states have developed programs to assist beginning music teachers. The Council of Executive Directors of the State Music Educators Associations included mentoring and induction of new music teachers on the agenda of their 2002 meeting.

Texas Music Educators Association responded to the needs of new teachers with a number of initiatives. In 1998, TMEA formed a taskforce ("TMEA 2000 – Serving Music Education into the 21st Century.") to study the issue of both recruitment and retention (TMEA, 2005). The resulting initiatives include: an online *New Teacher Handbook & Music Teacher Resource Center* that contains tips for beginning the school year, "It works for me" strategies and techniques, curriculum, lesson plans and assessment ideas, and sample choir, band and orchestra student handbooks. See tmea.org >New Teacher Handbook for details. Additionally TMEA members participate in a mentoring network pairing mentors with those requesting a mentor (tmea.org > main menu > mentoring network). In response to the need of new music teachers, Illinois Music Educators Association has developed a mentoring program that includes the following: matching of new teachers with mentors; in-service programs at the annual state conference; a series of articles in the state journal; and a pamphlet given to new teachers entitled, *How to Survive as a Beginning Music Teacher* (Conway, et al., 2002).

Minnesota Music Educators Association offers a *Mentoring Morning* for early career teachers at their Mid-Winter Clinic. In addition, the Minnesota Band Directors Association includes a mentoring meeting in their new teacher program. Both of these organizations provide new music educators the opportunity to be paired with experienced music mentors (Conway et al., 2002).

Michigan School Band and Orchestra Association provides a list of retired band and orchestra directors who are available to work with first-year teachers. The Michigan Music Educators Association has a similar list of retired general music teachers (Conway, 2001).

The Music Educators National Conference (MENC) encourages its membership to serve as mentors to new teachers in their schools or districts. MENC also encourages its members to get colleagues in their state to join MENC ("Promoting the Profession," 2000). In 2003 MENC reported that over half of all public music educators were currently MENC members ("Teacher Shortage at Critical Level," 2003).

Texas Choral Directors Association (TCDA) provides a forum each summer in which music teachers can collaborate. TCDA sponsors a two-to three-day clinic wherein Texas teachers have the opportunity to sit together as they go over scores and look at repertoire. Complimentary music packets are provided by publishers, which enable teachers to extend their repertoire ("Time for Professional Development," 1994).

Professional development through mentoring, workshops, and conference appears to be a key factor in the retention of new music teachers. Madsen and Hancock (2002) concluded that music educators "who have a propensity to remain in the field actively pursue opportunities for personal and professional growth and thus tend to engage in projects and activities that represent a further investment in their involvement with music teaching" (p. 15).

Given the importance the profession appears to place on mentoring and networking in professional organizations, one could consider whether early-career music educators are aware of the values of participating in professional organizations and conferences and when in their training they become aware of the benefits of professional organizations. To address the issue of when young music educators become aware of professional organizations, this study was designed to compare early-career music educators with senior music education students regarding their knowledge of professional organizations, their own professional memberships, and the perceived benefits of those memberships.

## Method

Subjects consisted of senior music education majors (*n*=89) and early-career music educators (*n*=233). College music education majors, limited to seniors and those who were currently student teaching as identified by the appropriate faculty members, represented 8 Texas universities (Southern Methodist University = 3, Texas Christian University = 11, Texas State University = 18, Texas Tech University = 34, Trinity University = 4, University of Mary Hardin-Baylor = 2, University of Texas at San Antonio = 8, Wayland Baptist University = 9). Special thanks to Dr. James Ode, Dr. Sheri Neil, Ms.. Robin Stein, Dr. Diane Persellin, Dr. George Stansbury, Dr. Susan Bruenger, Ms. Debbie Flournoy and their students for their participation in this study.

The college students' responses were compared with those of Texas early-career music educators whose data were collected as part of a larger study (Killian & Baker, 2004). These educators consisted of 223 members of TMEA who indicated that they were first-year teachers or first-year-in-Texas teachers on their TMEA memberships between March 1999 and March 2003 and are referred to throughout as "early career music educators." As specified by Killian & Baker (2004), these 233 respondents represented 37.35% of a pool of 597 teachers identified via their TMEA memberships and subsequently invited to participate in the survey.

Both pre-service and early-career music educators responded in writing to questions regarding memberships in professional organizations. Respondents checked memberships from a list of acronyms of professional organizations, as derived from a pilot study for the Killian & Baker (2004) research. Subjects were also invited to write in any additional organizations, and were asked how many professional conferences they attended yearly. Additional questions were asked in a free-response format. These involved the "types of support found (will find) to be most beneficial," "additional services TMEA might provide," and for college students "why join TMEA during your college career."

Additionally, college students, but not teachers, were asked to write the complete names of organizations given a list of acronyms as a measure of their knowledge of these organizations.

## Results

Data consisted of frequency with which respondents indicated professional memberships, attendance at professional conferences, and written responses to open-ended questions. Written responses were examined and subsequently categorized into appropriate groupings for purposes of comparison. General comparisons were made between college students and early-career teachers in all areas. An additional analysis (right, wrong, no response) was made of students' accuracy at identifying professional acronyms.

Results indicated that most respondents (96.4% of early career teachers and 74.2% of music ed majors) belonged to TMEA. Note that teachers' names were gathered from 5 years of TMEA data, thus an individual teacher could have been a TMEA member, without necessarily being a current member. More college students (62.9%) than current teachers (21.5%) indicated MENC memberships. Further analysis indicated relatively little difference between student and teacher memberships. Only music organization memberships were analyzed; thus any social fraternities or general education organizations were not reported in this study. Table 1 presents the percentage of respondents listing membership in each organization.

Table 1
*Reported Professional Memberships of Teachers & Students*

| Organizations | Music Ed Majors (*n*=89) | Early-Career Music Educators (*n*=223) |
|---|---|---|
| TMEA | 74.2% | 96.4% |
| MENC | 62.9% | 21.5% |
| TBA | 4.5% | 24.7% |
| ATSSB | 0.0% | 12.1% |
| TCDA | 7.9% | 11.2% |
| ACDA | 4.5% | 6.3% |
| OAKE | 1.1% | 5.4% |
| TODA | 2.2% | 4.5% |
| IAJE | 2.2% | 4.0% |
| ASTA | 1.1% | 3.6% |
| TMTA | 3.4% | 1.8% |

(Table 1 continues)

Table 1, continued
*Reported Professional Memberships of Teachers & Students*

| Other Organizations Written in by Respondents (Reported by frequency of occurrence) | | |
|---|---|---|
| | Music Educ. Majors | Early-Career Music Educators |
| General Professional Organizations | | |
| MTNA | 1 | 0 |
| College Music Societies | | |
| Mu Phi Epsilon | 8 | 0 |
| Sigma Alpha Iota | 3 | 1 |
| Kappa Kappa Psi | 2 | 0 |
| Tau Beta Sigma | 1 | 0 |
| Phi Mu Alpha | 0 | 1 |
| Specific Area or Instrument Organizations | | |
| American Orff Schulwerk Association | 0 | 6 |
| Texas Music Adjudicators Association | 0 | 5 |
| National Band Association | 0 | 4 |
| Percussive Arts Society | 3 | 3 |
| Suzuki Association. of the Americas | 0 | 2 |
| Gordon Institute for Music Learning | 0 | 2 |
| College Band Directors Nat. Assoc. | 0 | 2 |
| International Tuba/Euphonium Society | 1 | 0 |
| National Flute Association | 0 | 1 |
| International Horn Society | 1 | 0 |
| Choristers Guild | 0 | 1 |
| Am. School Band Directors Association | 0 | 1 |
| University or District Specific Groups | | |
| Music Education Organization (TCU) | 4 | 0 |
| Abilene Music Teachers Association | 0 | 2 |
| Association of Voice Scholars (TTU) | 2 | 0 |

Students held an average of 2.22 memberships (173 memberships out of 89 respondents) and teachers held 2.45 memberships. Additionally, little difference appeared in the number of conferences attended yearly between students (mean number of conferences = 1.57 with 14 of 89 or 15.7% attending no conferences) and teachers (mean = 2.03 with 12 of 233 or 5.2% attending no conferences).

When given a list of organizations as gathered by Killian & Baker (2004), music education majors in general were either familiar with many of the acronyms of the music

education professional organizations or at least were aware of what they didn't know (overall average percentage of correct responses = 43.3%, incorrect = 10.0% and no response = 46.9%). Table 2 displays the specifics.

Table 2

*Acronym Knowledge Among Students*

| Organizations | % Correct | % Incorrect | % No Response |
|---|---|---|---|
| TMEA | 94.4% | 5.6% | 0.0% |
| MENC | | | |
| Music Educators | | | |
| National Conference | 54.9% | 22.5% | 23.6% |
| National Association | | | |
| For Music Education | 2.2% | | |
| TMTA | 48.3% | 1.1% | 50.6% |
| TODA | 46.1% | 2.2% | 51.7% |
| TCDA | 39.3% | 18.0% | 42.7% |
| ACDA | 38.2% | 13.5% | 48.3% |
| TBA | 38.2% | 33.7% | 28.1% |
| ATSSB | 29.2% | 12.4% | 58.4% |
| ASTA | 23.6% | 4.5% | 71.9% |
| IAJE | 18.0% | 6.7% | 75.3% |
| OAKE | 5.6% | 11.2% | 83.1% |
| | *Mean =* | *Mean =* | *Mean =* |
| | 39.6% | 11.9% | 50.7% |

In answer to the question "which membership benefits are most beneficial," both teachers (44.4%) and students (29.2%) agreed that conventions and workshops were most valuable. Students valued mentoring (14.6%) more frequently than did teachers (1.8%). Students also mentioned the benefit of networking, the magazine, the website and the new teacher handbook more frequently than did teachers. See Table 3.

Table 3
*Perceived Membership Benefits of Professional Organizations*

| | College Students (n=89) | Early-Career Music Educators (n=233) |
|---|---|---|
| Convention-Related | | |
| Workshops & Clinics | 29.2% | 44.4% |
| Literature & Concerts | 0.0% | 10.3% |
| Professional Development | 0.0% | 4.0% |
| Exhibits | 3.4% | 1.3% |
| Informational | | |
| Magazine | 10.1% | 7.6% |
| Website | 5.6% | 4.9% |
| Job Information | 7.9% | 0.0% |
| New Teacher Handbook | 5.6% | 0.0% |
| Region Meetings | 1.1% | 0.0% |
| Support & Advocacy | | |
| Liability insurance | 10.1% | 5.8% |
| Advocacy | 2.2% | 5.4% |
| Networking | 20.2% | 3.6% |
| Professional Support | 0.0% | 3.1% |
| Discounts | 2.2% | 0.0% |
| Mentoring | 14.6% | 1.8% |
| Resources (unspecified) | 34.8% | 0.0% |

Students appeared to display some agreement regarding reasons for joining TMEA during their college career with the convention (31 mentions), networking & jobs (23 mentions), and workshops (22 mentions) being the most frequently cited. See Table 4.

Table 4
*Student Reasons for Joining TMEA This School Year*

| | |
|---|---|
| Convention (*n* = 31) | 34.8% |
| Networking & Jobs (*n* =23) | 25.8% |
| Workshops (*n* =22) | 24.7% |
| Teaching Strategies (*n* =13) | 14.6% |
| Magazine (*n* =12) | 13.5% |
| Resources (*n* =9) | 10.1% |
| Required (*n* =7) | 7.9% |
| Concerts (*n* =4) | 4.5% |
| Advocacy (*n* =2) | 2.2% |
| Insurance (*n* =2) | 2.2% |
| Assistance with 1st year teaching (*n* =1) | 1.1% |
| Discounts (*n* =1) | 1.1% |
| Info on Texas music (*n* =1) | 1.1% |
| Website (*n* =1) | 1.1% |

Less agreement was found between students and teachers regarding additional services TMEA could provide. Teachers listed classroom management (10 mentions) and technology (99 mentions), whereas only a single student mentioned either of these topics. Likewise, teachers recommended workshops on programming, specific instrument pedagogy, and mentoring while none of the students did. Most recommendations appeared to be quite idiosyncratic (as Table 5 indicates).

Table 5
*Suggestions for Additional TMEA Services*

| Suggestions for TMEA Workshops | | |
|---|---|---|
| College Students | | Early-in-Career Teachers |
| (*n* = 1) | Classroom Management | (*n* = 10) |
| (*n* = 3) | Orff & Kodaly Certification | (*n* = 10) |
| (*n* = 1) | Technology | (*n* = 9) |
| (*n* = 3) | Local & Region Workshops | (*n* = 6) |
| (*n* = 3) | Teaching in Ensembles | (*n* = 5) |
| (*n* = 3) | Unspecified Requests for workshops | (*n* = 5) |
| (*n* = 0) | Programming | (*n* = 4) |
| (*n* = 0) | Specific Instrument Pedagogy | (*n* = 4) |
| (*n* = 2) | New music reading | (*n* = 3) |
| (*n* = 1) | Politics/administration/teachers | (*n* = 3) |
| (*n* = 0) | UIL Sight Reading | (*n* = 3) |
| (*n* = 2) | Budget | (*n* = 2) |
| (*n* = 0) | Recruiting & Retaining Students | (*n* = 2) |
| (*n* = 0) | AP music theory | (*n* = 1) |
| (*n* = 0) | Assessment | (*n* = 1) |

(Table 1 continues)

Table 5, continued
*Suggestions for Additional TMEA Services*

| College Students | Suggestions for TMEA Workshops (continued) | Early-in-Career Teachers |
|---|---|---|
| (*n* = 0) | Beginning Orchestral Lit | (*n* = 1) |
| (*n* = 0) | Children's Musical Lit | (*n* = 1) |
| (*n* = 0) | Ethnic Student Populations | (*n* = 1) |
| (*n* = 2) | ExCET review | (*n* = 1) |
| (*n* = 1) | Inclusion | (*n* = 1) |
| (*n* = 3) | Organization/Planning School year | (*n* = 1) |
| (*n* = 0) | Parenting | (*n* = 1) |
| (*n* = 0) | Sequencing Lessons | (*n* = 1) |
| (*n* = 0) | Teaching in Small Schools | (*n* = 1) |
| (*n* = 1) | Time Management | (*n* = 1) |
| (*n* = 1) | TEKS/Lesson Planning | (*n* = 1) |
| (*n* = 0) | Upper grade vs. lower grade material | (*n* = 1) |
| (*n* = 2) | Improve Musicianship | (*n* = 0) |
| (*n* = 2) | Interviewing | (*n* = 0) |
| (*n* = 2) | Music programs outside of state | (*n* = 0) |
| (*n* = 1) | Booster Clubs | (*n* = 0) |
| (*n* = 1) | Leadership | (*n* = 0) |
| (*n* = 1) | Mock Interviews | (*n* = 0) |
| (*n* = 1) | Reluctant Singers | (*n* = 0) |
| (*n* = 1) | Texas laws applying to teachers | (*n* = 0) |
| Other Suggestions | | |
| (*n* = 0) | Mentoring or Mentoring Improvement | (*n* = 6) |
| (*n* = 0) | Make Student Teaching more realistic | (*n* = 2) |
| (*n* = 0) | Facilitate observation of successful teachers | (*n* = 2) |
| (*n* = 0) | Health insurance | (*n* = 1) |
| (*n* = 3) | How-to info on website | (*n* = 1) |
| (*n* = 1) | Pictures of region directors on website | (*n* = 0) |
| (*n* = 0) | Email legislative happenings | (*n* = 1) |
| (*n* = 0) | Provide clinicians to work with your groups | (*n* = 1) |
| (*n* = 0) | Ways to get info to campuses | (*n* = 1) |
| (*n* = 0) | Provide staff development in music ed | (*n* = 1) |
| (*n* = 0) | Give 1st year teachers encouragement | (*n* = 1) |
| (*n* = 0) | Provide cross-curricular interactions | (*n* = 1) |
| (*n* = 0) | Lessen gap between large & small region | (*n* = 1) |
| (*n* = 0) | Convention clinics should teach their title | (*n* = 1) |
| (*n* = 1) | List of ISD websites for potential jobs | (*n* = 0) |
| (*n* = 2) | Publication of job opportunities | (*n* = 0) |
| (*n* = 2) | Graduate grants/scholarships info | (*n* = 0) |
| (*n* = 1) | Discounts at convention | (*n* = 0) |
| (*n* = 1) | Information on membership | (*n* = 0) |
| (*n* = 1) | Free teaching materials | (*n* = 0) |

## Discussion

The results of this study indicate that both senior music education majors and early career teachers participate in professional organizations. The vast majority of teachers (96.4%) and most students (74.2%) indicated that they belonged to TMEA. Whether their memberships are driven by the value they perceive in this organization or by the requirements of either all-state entries (teachers must belong to TMEA in order to enter students into the all-state process) or college class requirements is not known. The larger discrepancy between student MENC memberships (62.9%) and teacher membership (21.5%) was unexpected. It may indicate that college classes require MENC membership, student member services from MENC are perceived as more valuable than teacher services, college professors (who anecdotally seem to comprise most of the MENC members in Texas) emphasize the importance of a national view, or some unknown factors. Nonetheless the magnitude of the difference is noteworthy and perhaps may be of interest to those providing services to both students and teachers.

It is interesting to note the number of other memberships subjects took the time to write in the survey. Overall, subjects mentioned memberships in 27 music-related organizations and 5 music fraternal groups. These numbers would indicate the great number of resources we have in our profession. Additionally, there were few college students who reported no memberships. Most students in this study are, for whatever reason, joining prior to graduation, with 81.9% indicating a membership in at least one professional organization. Members of the leadership in these organizations might take pride in that fact and perhaps continue to design services appealing to pre-service teachers.

Interestingly, students in this study indicated that they attend conferences at about the same annual rate as do early career teachers (2.2 vs. 2.4 conferences a year). Further studies might examine what aspects of the conferences are particularly valuable. Conferences were mentioned as beneficial by both students (29%) and teachers (44%), but teachers seemed to value the benefits more highly (or at least mention them more frequently). It should be noted however, that student responses related to benefits were a bit difficult to decipher because over a third (34.8%) simply mentioned “resources” as a benefit. Teachers, on the other hand, specified which resources were most valuable and agreed that conferences were the most beneficial. It might be speculated that students simply may not know about conference benefits, or that the conferences actually are more beneficial to practicing teachers. Further examination of services provided for students might be in order.

Student knowledge of acronyms was most interesting. Many students knew the acronyms (40%), and relatively few gave wrong answers (12%); instead they simply did not respond (51%). Perhaps the most complex answers appeared for MENC, with most of the wrong answers being Music Educators National Convention (or Association, or Committee). Only two students knew that MENC now stands for National Association for Music Education. The name was changed a few years ago and apparently has not been readily adopted by students (and thus perhaps by college music educators responsible for their preparation).

Further examination of Table 3 (Perceived Membership Benefits of Professional Organizations) reveals some interesting differences between teacher and student opinion. Students’ desire for mentoring (14.6% of the students vs. 1.8% of teachers mentioned mentoring) may be a result of their recent experience with university supervisors and the value they have derived from such an association. Networking may be of particular value to students (20.2% students mentioned this perceived benefit as compared to 3.6% teachers) because they do not

know very many people in their field and are anxious to "get their name out there" as well as acquire some mentors. Magazines and the website help students stay connected (mentioned by more students than teachers), again since they do not know as many professionals in their field. In addition, magazines and websites provide them with information that the teachers may already know. Additionally, use of websites for information may be more familiar to technologically sophisticated students. The new teacher handbook (mentioned by none of the teachers) is obviously more valuable to students, since teachers have already begun developing their own materials. It is also possible that since the new teacher handbook is a new service (provided online by TMEA in Fall 2004) many teachers are not aware of its existence.

By far the most interesting results of this study involved the differences between teachers and students regarding suggested additional TMEA services. The vast majority of both teachers and students included suggestions for workshops. Interestingly, among teachers the most frequently mentioned suggestions involved classroom management and technology. Only one student mentioned either topic. Differences in the desire for information about technology may reflect the existing technological skills of students. But the lack of desire for information about classroom management is more problematic. Anecdotal conversations with students reveal that many simply do not believe that discipline problems will happen in their classroom and exhibit much confidence in their ability to decide how to handle problem when and if they happen. By way of contrast, teachers list problems with classroom management as a primary reason for leaving the profession (Killian & Baker, 2004), the most frequently listed "biggest problem" among student teachers (informal survey of Fall, 2004 student teachers) and the lacking component of their undergraduate training (Madsen & Hancock, 2002). Further research into the exact nature of these differences and ways to realistically approach these perceived discrepancies appear vital to the retention of educators in our profession.

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# The Effect of Visualization Training on Piano Sight-Reading Accuracy

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A musician's ability to perform an unfamiliar score at sight—sight-reading—is an area of study that has received increasing attention in the last three decades. A long-standing body of pedagogical tradition and anecdotal advice is being informed by more systematic investigations into a variety of factors and abilities that affect sight-reading ability, particularly with regard to piano due to the complexity of the sight-reading task on that instrument.

Although much sound advice can be found in the pedagogical literature, a fundamental weakness is the piecemeal approach to problem solving adopted by most authors and a lack of clarity regarding cause and effect. For instance, one commonly encountered piece of advice is to encourage the student to read ahead so that the player has time to anticipate upcoming problems. In order to accelerate development of good visual habits, some authors suggest either pointing with a pencil to upcoming notes as the student plays (Lewis, 1989; Harrel, 1996) or covering up the portion of the score the student is currently playing (Proctor, 1994; Peake, 1999). However, it is not clear that such strategies will improve a player's ability to look farther ahead in the score; the ability to do so may be the result of other factors such as the manner in which the score is conceptualized during playing. One such factor is "chunking", the ability to group individual notes into meaningful units that can be conceptualized with a single glance. Miller (1956) concluded that about 7 units of information can be stored in short-term memory, while others (Sloboda 1977, 1984; Halpern and Bower, 1982; Goolsby, 1994) have found evidence that good readers' eye-hand span (the distance the eyes are looking ahead of the playing) varies depending on "understandability" of the music grammar and what portion of a phrase is currently being played. This suggests that looking ahead itself is not the cause of successful sight-reading, but rather that good readers are able to look farther ahead because for them a single unit of information comprises a larger number of notes than it does for a poor sight-reader.

Another weakness in the pedagogical literature is contradictory advice. A major issue is the method of teaching students to quickly interpret pitch information. A common suggestion is to reinforce students' knowledge of letter names, either through flash cards (Peake, 1999) or naming notes in the score (Lewis, 1989; Towse, 1985). Yet others counsel avoiding the note-naming process in favor of recognizing intervals and the patterns they form (Haug, 1990; Brown, 1996; Harrel, 1997; Boitos, 1998) or to visualize key locations on the keyboard (Harrel, 1996,

Brown 1996). Scientific studies seem to support the latter strategy because the identification of intervallic patterns fits the chunking model noted earlier.

In other respects, the pedagogical literature finds accordance with recent research. The commonly encountered advice to improve sight-reading by doing it often (Proctor, 1999; Harrel, 1996; Hoole, 1995) may seem simplistic, yet it is borne out by evidence from several studies. Lehmann and Ericsson (1996) conducted an experiment where notes erased from the score were more likely to be correctly inferred by good readers and Sloboda (1976) found similar results with deliberately inserted misprints. Both studies support the idea that good sight-readers use context-based cues to make educated guesses about what to play and that such inferences are drawn from material gathered in prior music experiences. This is further support by evidence that good readers have had extensive practical application of reading over a long period of time (Lehmann and Ericsson, 1996).

The purpose of the current study was to determine the potential benefit of a particular pedagogical approach to improving sight-reading ability in pianists. Specifically, we sought to determine the usefulness of having pianists indicate the chord structure of a sight-reading piece by marking key locations on a representation of a keyboard printed on a sheet of paper.

## Method

Subjects were 30 middle school and high school-aged piano students from various cities throughout Texas attending a summer piano camp at a major private university in Texas. Prior to participating in the study, subjects were provided with an informed consent form. Subjects were evenly divided into a control group and an experimental group.

Initially, all subjects were instructed to spend 3 minutes visually examining a short excerpt of music chosen to match their current level of music proficiency. At the end of the 3-minute period they were videotaped performing the same excerpt. Following this, all subjects were given a second previously unseen music excerpt of similar difficulty to prepare in one of two ways. Subjects assigned to the control group were asked to once again examine the excerpt for a period of 3 minutes and then asked to perform it in front of a video camera. Subjects in the experimental group were asked to study the same score using a set system of sight-reading preparation where they indicated the chord structure of excerpt by marking key locations on a representation of a keyboard printed on a sheet of paper (see Figure 1.) Following this second 3-minute preparatory exercise, all subjects were once again asked to perform the excerpt in front of a video camera.

Following the conclusion of data collection, we viewed each subject's videotape with score in hand to assess the accuracy of six specific elements of effective music sight-reading performance: Note Error (subject plays incorrect note); Rhythmic Error (subject plays incorrect rhythm); Repeated Note (subject repeats a note or notes of a chord); Tempo (subject substantially changes the tempo over at least 1 measure); Hesitation (subject makes a break in musical continuity; and Omission (subject omits 1 or more notes). To avoid confusion during the data collection phase of the study, a system of rules for classifying errors was defined a priori: (1) In evaluating note errors, only one note error was counted per rhythmic event, (e.g., if the subject played all the notes of a 4-note chord incorrectly, this counted only as a single error; (2) A hesitation was defined as a single event; (3) Tempo changes had to have been evident over the course of at least one full measure; tempo changes over the course of less than a measure were counted as either hesitations or rhythmic errors.

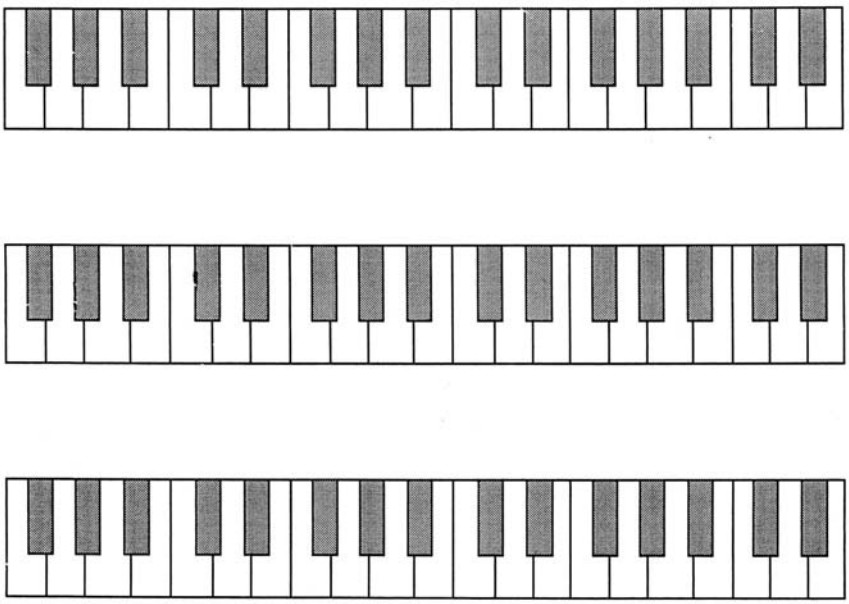

*Figure 1*: Sample Keyboard Chart

Using these rules as guidelines, we observed the videotapes of each subject's baseline and post-treatment sight-reading performances and made a frequency count of errors for each of the six music elements.

Following this, each individual subject's error scores were grouped by performance order, group assignment, and music element. For both groups of subjects, a total number of errors for each of the music elements was calculated for both the baseline and post-treatment performances. Mean scores were then calculated to represent the accuracy of each group in each of the six areas for both performances.

## Results

Although the number of note errors for each group increased between the first and second excerpts, the experimental group's mean scores of 4.77 (NE 1) and 7.38 (NE 2) showed greater overall accuracy when compared with the mean scores of the subjects in the control group who scored 6.85 (NE 1) and 13.15 (NE 2). Table 1 illustrates the differences in mean scores between both subject groups for each of the six music elements assessed. Comparison of both group's mean scores for the first and second excerpts also revealed much greater differences in accuracy. The experimental group's mean score for the second excerpt (7.38) revealed almost half the errors observed in the control group, perhaps illustrating the positive effect of subjects in the experimental group using the visualizer keyboard aid prior to performing the second sight-reading excerpt.

Table 1
*Mean Error Scores for Sight-Reading Elements Assessed*

| Group | Note Error *A* | Note Error *B* | Rhythm Error *A* | Rhythm Error *B* | Repeated Note *A* | Repeated Note *B* | Tempo *A* | Tempo *B* | Hesitation *A* | Hesitation *B* | Omission *A* | Omission *B* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 6.85 | 13.15 | 1.85 | 1.08 | 2.77 | 3.31 | 0.08 | 0.15 | 2.38 | 4.77 | 0.85 | 1.23 |
| E | 4.77 | 7.38 | 0.69 | 3.08 | 0.92 | 4.08 | 0.08 | 0.00 | 2.54 | 4.69 | 0.31 | 0.00 |

*A* = First sight-reading excerpt; *B* = Second sight-reading excerpt

Although the experimental group also performed the first music excerpt with fewer rhythmic errors (.69) than the control group (1.85), the same was not true for the second sight-reading excerpt. The rhythmic errors on the second excerpt were almost three times as frequent in the experimental group (3.08) than in the control group (1.08).

Mean scores for repeated notes revealed no advantages to subjects using the visualizer. For the first performance excerpt, the mean for the control group's total number errors was 2.77 while the experimental group scored .92. On the second performance excerpt, the mean number of repeated note errors for the control group was 3.31 and for the experimental group 4.08.

In terms of tempo accuracy, neither group showed major differences on either performance. Mean error scores for tempo were .08 and .15 for the control group, and .08 and 0 for the experimental group. This may suggest that one strength common to all of the subjects was being able to keep a steady tempo while sight-reading.

For both groups, the numbers of errors resulting from hesitations were fairly similar for both the first and second excerpt performances. For the first excerpt, the control group's mean was 2.38; the experimental group's mean was 2.54. On the second excerpt the control group's mean was 4.77; the experimental group's mean was 4.69.

Mean error scores for omissions revealed no major differences between the first and second excerpt performance for either group. The experimental group's mean for the first excerpt was .31; the control group's was .85. On the second excerpt, the experimental group performed with no omissions compared with the control group's mean of 1.23.

## Discussion

In terms of sight-reading accuracy, the experimental group had fewer errors for the first excerpt in four of the six areas being assessed (note errors, rhythmic errors, repeated notes, and omissions). For the second excerpt, the difference between the control group's mean scores for accuracy in the areas of rhythmic errors and repeated notes were much lower than those of the experimental group.

Most interestingly, results suggested that, following their exposure to the visual keyboard chart, subjects in the experimental group performed with almost half the number of note errors ($M$=7.38) than subjects in the control group ($M$=13.15). This suggests that the use of visual keyboard training may be effective in improving the note accuracy of students learning to sight-read, and that the use of such charts warrants further investigation to determine their worth as an

effective strategy for teaching sight-reading and for improving the accuracy of pianists' sight-reading skills.

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# Kodály Approach to the Bilingual Classroom: Mexican Children's Folk Songs for Children of Mexican Descent

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Music educators face a dilemma. Government agencies and music education organizations both call for teaching children songs of their individual cultures as well as other cultures. Recent patterns of immigration in the United States show the Hispanic population as the largest minority, with unique educational, sociocultural, and emotional needs. Aponte (1999) states that approximately 60 percent of the Latino population is of Mexican descent. The implication from these statistics is that music educators should work toward developing materials that not only follow the mandates set forth by federal agencies and music education organizations, but that also take into consideration the growing Mexican population. In a review of leading pedagogical books that embrace the Kodály approach (Eisen & Robertson, 2002; Choksy, 2000; Tacka & Houlahan, 1995; and Forrai, 1998), there is discussion about using only authentic folk music of a child's cultural heritage. However, only Tacka & Houlahan (1995) provide four Hispanic folk songs and one Hispanic rhyme, and Eisen & Robertson (2002) mention one Hispanic folk song. The other authors do not provide any Hispanic folk songs or rhymes. Music educators are facing this growing Hispanic population with very limited resources that provide authentic materials and teacher training to meet the national and state mandates.

The purpose of this project is to produce a collection of authentic Mexican folk songs for children appropriate for use in the general music classroom. The study will attempt to answer the following questions:

1) What folk song resources are currently available in the United States for music educators that address the needs of children of Mexican descent?
2) What folk song resources are currently available from Mexico to develop a collection of authentic folk songs for children of Mexican descent?
3) What selection criteria should be formulated to meet the standards of the Kodály approach?
4) What folk song retrieval format would best serve the music educator to implement these folk songs into a Kodály-based curriculum?
5) Can a pedagogical sequence of concept learning be formulated based on these folk songs?

The review of literature revealed numerous folk song resources available in the United States that attempted to meet the needs of children of Mexican descent. Cappon (1967), Campa (1968), and Jalongo (1983) wrote about the need for Hispanic folk song material in the classroom. Cappon (1967) went further by selecting 24 Hispanic folk songs that he considered appropriate for public school. Soy (1975), Otero, and West (1977), West (1977), and Esquibel (1988) provided curricular resources that utilized Hispanic folk song material. Baskin (1996) and Orozco (1994, 1997) provided song collections that use Hispanic folk song material. It was concluded that these resources did not satisfy the needs of the music educator, and in particular the educator wishing to implement a Kodály-based curriculum, because the songs did not meet the criteria described by Lund (1991) for authentic folksongs.

## Method

I sought to develop a curriculum that includes a collection of authentic Mexican folk songs, chants, and rhymes for the Kodály-based music classroom. The first task was to choose authentic folk songs, chants, and rhymes, then present them in a retrieval format, and finally develop a pedagogical sequence of concept learning. The steps for the curriculum design are described below.

### *Criteria for Authentic Folk Songs*

I selected Mexican folk songs. These folk songs were chosen based on the criteria described by Lund (1991), specifically identifying variants, identifying the folk culture, identifying its musical qualities, and obtaining the songs from reliable sources. All the folk songs selected in this study met at least two of these criteria.

#### *Resources from Mexico.*

Resources from Mexico were selected from:

1) Singers who grew up in the Mexican Culture
2) Collections by ethnomusicologists of Mexican Folk Songs
3) Books where the Mexican authors state that the songs are from their childhood
4) Books that are a result of field studies
5) Recordings of singers who grew up in the Mexican Culture, or as a result of field studies.

### *Folk Song Retrieval Format*

The author of this paper carefully reviewed three formats of retrieval including the "Mastersheet" by Bliss as presented by Lund (1991), the format presented by Sinor (1998), and the format by Epstein and Rappaport (2000). Based on these three formats, the author chose the following format for the selected folk songs.

#### *Staff Notation.*

It is organized by phrases.

*Melodic Analysis.*

CSP – comfortable singing pitch
Tone set – in solfege syllables
Scale – either major, minor, pentachord, hexachord, pentatonic, tetrachord, tetratonic, trichord, tritonic, bichord, bitonic, etc. Tonic means songs that contain adjacent tones within the order of circle of fifths. Chord means all the notes in a song that exist in a specific scale system with the lowest tone being the tonal center (Lund, 1991).
Range – the lowest note to highest note in solfège syllables
Melodic Motifs – all the melodic motifs in solfège syllables
Measures – number of measures per phrase
Cadences – the ending scale degree for each phrase
Melodic Form – the structure of the song based on the phrases

*Rhythmic Analysis.*

Rhythm – heterorhythmic (different rhythm patterns throughout the song) or isorhythmic (same rhythm patterns throughout the song)
Note Values – all the note values of the song
Rhythmic Motifs – all the rhythmic motifs of the song
Rhythmic Form – the form of the song based only on the rhythm
Meter – heterometric (more than one meter throughout the song) or isometric (same meter throughout the song)
Tempo

*Classroom Analysis*. The information provided in this section is based upon my knowledge of the child's voice, national and state standards, and Kodály sequence of concept learning.

Grade Level – appropriate grade levels for folk song
Pedagogical Uses – List of appropriate pedagogical uses
Teaching Suggestions – suggestions on how to make successful in class or any other related material
Game Directions – direction of singing games

*Background Information*.

Type / Style – circle game, singing game, action game, etc
Context – any historical or cultural connections
Ethnicity – specific geographic areas
Source – title of book, author, location of publisher, publisher, date of copyright or publication, page numbers.
Source Information – primary sources
Research notes – interesting facts or information about this song or other variants.

Each section of the Folk Song Retrieval Format will aid the music educator in making an informed decision on the selection of repertoire. The melodic and rhythmic analyses are especially helpful in designing a pedagogical sequence.

*Pedagogical Sequences*

Once the folk songs were analyzed, they were catalogued into rhythmic and melodic sequences. Kodály believed that folk songs could be used to form the basis of a music literacy program. Through a musical analysis of these folk songs, a rhythmic sequence and a melodic sequence were formulated for grades Pre-k through third grade.

## Results

I found two resources from the United States and five resources from Mexico that met my designed criteria. Paredes (2001) compiled a song collection of Mexican folk songs from the Texas-Mexican border. Griego, Bucks, Gilbert, & Kimball (1981) compiled a collection of rhymes and chants from different parts of Latin-America. Mendoza (1980) and Moncada (1997) are Mexican collections of children's folk songs, chants, rhymes, and games by ethnomusicologists from Mexico. CONAFE (1988,1989) developed educational books and tapes from Mexico that were a result of field studies. Díaz Roig (1996) compiled a Mexican collection of folk songs, rhymes, and chants with an accompanying CD. Finally, there were several folk songs, chants, and rhymes from people of the Mexican culture, including some folklore contributed by me.

The folk songs, chants, and rhymes selected from the seven resources met at least two of the criteria described by Lund (1991). I chose a retrieval format that included a rhythmic, melodic, and classroom analysis. Eight rhymes, 8 chants, 37 singing games, 4 song tales, 3 Christmas songs, and 8 lullabies were presented using this retrieval format. The rhymes used only the classroom analysis and background information part of this folk song retrieval format.

*Repertoire*

After collecting and analyzing the selected repertoire, the musical material was divided into the following categories: rhymes, chants, singing games, traditional Christmas songs, and lullabies. The following tables summarize the analyses for each category of selected repertoire. Table 1 summarizes the rhymes by grade level, type, and source. Table 2 summarizes the rhythmic and classroom analyses for the chants collected in this study. Chants are defined as having a discernable beat and rhythm when compared to rhymes. Table 3 summarizes the melodic and rhythmic analyses for the singing games that were collected, and Table 4 summarizes the classroom analyses. Table 5 summarizes the melodic and rhythmic analyses of the collected song tales, songs that tell a story. Table 6 summarizes the classroom analyses for the song tales. Table 7 summarizes the melodic and rhythmic analyses of the selected traditional Christmas songs, and Table 8 summarizes the classroom analyses. Finally, Table 9 summarizes the melodic and rhythmic analyses of the selected lullabies, and Table 10 summarizes the classroom analyses of each lullaby. Please see Appendix A for examples of the complete analyses for each category.

Table 1
*Rhymes*

| Name | Grades | Type | Source |
|---|---|---|---|
| A, el burro se va | Pre-k -1st | Wiggle | Díaz Roig (1996) |
| No Tengo Manita | Pre-k -1st | Shake | Díaz Roig (1996) |
| Este se robo un huevito | Pre-k -1st | Wiggle | Moncada (1997) |
| Este niño chiquito | Pre-k -1st | Wiggle | Moncada (1997) |
| La casa caída | Pre-k -1st | Wiggle | Moncada (1997) |
| Una viejita | Pre-k -1st | Tickle | Montoya-Stier |
| Sana, sana colita de rana | Pre-k -1st | Caress | *Tortillitas* (1981) |
| Sana, sana | Pre-k -1st | Caress | Moncada (1997) |

*Note.* Wiggle involves wiggling a child's fingers one at a time. Tickle involves tickling a child. Caress involves gently caressing a body part. Shake involves moving the child's arm up and down.

Table 2
*Rhythmic and Classroom Analyses for Selected Chants*

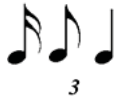
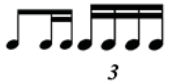
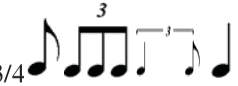
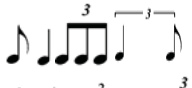
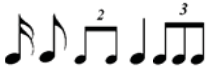
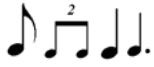
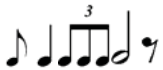
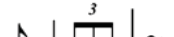
| | Rhythmic Analyses | | | Classroom Analyses | | |
|---|---|---|---|---|---|---|
| Name | Meter | Note Values | Form | Grade | Pedagogical Use | Source |
| Aviso al Publico | 2/4 |  | A A | 2nd – 4th |  | CONAFE (1989) |
| El Reloj de la Calavera | 4/4 |  | A B | 2nd – 4th |  | CONAFE (1989) |
| En Un Plato De Ensalada | 4/4, 3/4 |  | A B | Kinder – 2nd |  | Moncada (1997) |
| La Ronda Del Gato Y el Raton | 2/4 |  | A | Pre-k – 2nd |  | CONAFE (1989) |
| Matematicas | 2/4 |  | A B C D | Pre-k – 2nd | beat | CONAFE (1988) |
| Mi Papa Compro Una Casa | 2/4, 3/4 |  | A B | Pre-k – 2nd | beat | Moncada (1997) |
| Tin, Marin | 3/8 |  | A | Pre-k – 2nd | beat | Moncada (1997) |
| Zapatitos Blancos | 2/4 |  | A B A C | Pre-k – 2nd | beat,  | CONAFE (1988) |

Table 3
*Melodic and Rhythmic Analyses for Selected Singing Games*

| | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| Name | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| A la rueda de San Miguel | $s_1$ d r m | do tetratone | V – 3 | A B | 3/4,2/4 |  | A B |
| A la rueda de San Miguel | $s_1$ d r m | do tetratone | V - 3 | A B C | 2/4,6/8 |  | A B C |
| A la rueda de San Miguel | d r m f s $d^1$ | do pentachord | 1 – 8 | A B | 6/8 |  | A B |
| A la Vibora de la Mar | $s_1$ d r m f s l | Extended do Hexachord | V – 6 | A B C D E F | 2/4 |  | A B C D E F |
| A la Vibora de la Mar | $s_1$ $t_1$ d r m f s l | Major | V – 6 | A B C D E F G H | 3/4, 2/4 |  | A B C D E F G H |
| A la Vibora de la Mar | $s_1$ d r m | do tetratone | V – 3 | A B | 3/4,2/4 |  | A B |
| A Madru Senores | d m f s l $d^1$ | Extended do pentatone | 1 – 8 | A A A A A’ B B B C | 2/4, 3/4 |  | A A A A A’ B B B B’ |

(Table 3 Continues)

Table 3, continued
*Melodic and Rhythmic Analyses for Selected Singing Games*

| | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| Name | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| A Madru Senores | d m s $d^1$ | Extended do tritone | 1 – 8 | A A A A A' B B B C | 2/4, 3/4 |  | A A A A A' B B B B' |
| Amo a to | $t_1$drmfs | major | VII - 5 | A | 2/4 |  | A |
| Aserrin, aserran | $s_1$ dr | do tritone | V – 2 | A A A | 2/4 |  | A B C |
| Doña Blanca | $m_1f_1s_1l_1t_1$dr | major | III – 2 | A B | 3/4, 2/4 |  | A B |
| El Coyote | m s | mi dichord | 1 – 3 | A B C | 2/4 |  | A B C |
| El Coyotito | $s_1$ d m | do tritone | V – 3 | A B | 2/4 |  | A B |
| El Gato Y El Raton | $s_1l_1t_1$drm | do hexachord | V – 3 | A B A B | 2/4 |  | A B A' B' |
| El Lobo | $m_1f_1s_1l_1$ d | so pentachord | VI – 3 | A B C | 2/4, 3/4 |  | A B C |
| El Patio de Mi Casa | $s_1l_1t_1$drmf | major | V – 4 | A B A' B' C | 2/4 |  | A A' B A'' C D E F |

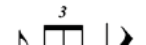
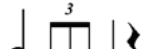
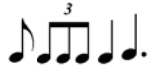
(Table 3 continues)

Table 3 (continued)
*Melodic and Rhythmic Analyses for Selected Singing Games*

| | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| Name | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| El Patio de Mi Casa | $s_1$<u>l</u>tdrmf | major / minor | V – 4 | A B A' B' C D | 2/4, 3/4 |  | A B A' B' C D D' |
| Emiliano | $s_1l_1t_1$<u>d</u>rmf | major | V – 4 | A B C | 2/4 |  | A A'B |
| La Cucaracha | (d) $r_1$<u>m</u>fslt | major | 2 – 7 | A A | 2/4 |  | A A |
| La Muñeca | <u>d</u>rmfsl $d^1$ | Extended do Hexachord | 1 – 8 | A A | 2/4 |  | A A |
| La Muñequita | <u>d</u>rmfsl $d^1$ | Extended do Hexachord | 1 – 8 | A A | 2/4 |  | A A |
| La Pelota Cantadora | <u>$s_1$</u> $t_1$drm | so pentatone | 1 - 5 | A A A | 2/4 |  | A A A |
| La Virgen de la Cueva | <u>d</u> m sl | do tetratone | 1 – 6 | A A A B B | 2/4 |  | A A A' B BLas |
| Cascaras de Huevo | (d)r<u>m</u>fsl | do pentatone | 2 – 6 | A | 2/4 |  | A |

(Table 3 continues)

Table 3, continued
*Melodic and Rhythmic Analyses for Selected Singing Games*

| Name | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| Las Estatuas de Marfil | $s_l$ <u>d</u> m | do tritone | V – 3 | A | 2/4 |  | A |
| Las Estatuas de Marfil | $s_l$ <u>d</u> m | do tritone | V – 3 | A | 2/4, 3/4 |  | A |
| Las Horas | $s_l$ $t_l$<u>d</u>rm | do pentatone | V – 3 | A A’ | 2/4 |  | A A’ |
| Los Caballitos | $t_l$<u>d</u>rmf | major | VII – 4 | A A’ | 6/8 |  | A A’ |
| Los Caracoles | $s_l$ $t_l$<u>d</u>rmfsl | major | V – 6 | A B C D E | 2/4 |  | A B C D D’ |
| Matarile-rile-ro | <u>d</u> mfs | do tetratone | 1 – 5 | A A A A A<br>B B B B B B | 4/4 |  | A A A’ A A<br>B B B B B B |
| Milano | (d)r<u>m</u>fs | Incomplete do pentatone | 2 – 5 | A B | 2/4 |  | A A’ |

(Table 3 continues)

Table 3, continued
*Melodic and Rhythmic Analyses for Selected Singing Games*

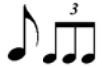
| | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| Name | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| Naranja Dulce | $s_1$ $t_1$<u>d</u>rmfs | major | V – 5 | A | 3/4 |  | A |
| Que Llueva, Que Llueva | <u>d</u> m sl | do tetratone | 1 – 6 | A B C C | 2/4 |  | A A' B B |
| San Miguelito | <u>d</u>rmfsl | do hexachord | 1 – 6 | A | 6/8 |  | A |
| San Serafin Del Monte | $s_1$ <u>d</u>rm | do tetratone | V – 3 | A B | 2/4 |  | A B |
| San Serafin Del Monte | $s_1$ <u>d</u>rm | do tetratone | V – 3 | A B | 2/4 |  | A B |
| Tortillas de Manteca | <u>d</u> m | do ditone | 1 – 3 | A A | 2/4 |  | A A |

Table 4
*Classroom Analyses for Selected Singing Games*

| Name | Grade | Game | Pedagogical Use | Source |
|---|---|---|---|---|
| A la Rueda de San Miguel | Pre-k – 1st | Circle | $s_1$ d, drm | Moncada (1997) |
| A la Rueda de San Miguel | Pre-k – 1st | Circle | $s_1$ d, drm | Montoya-Stier |
| A la Rueda de San Miguel | Pre-k – 1st | Circle | s $d^1$ | Mendoza (1980) |
| A la Vibora de la Mar | Kinder – 2nd | Line |  | Díaz Roig (1996) |
| A la Vibora de la Mar | Kinder – 2nd | Line |  | Moncada (1997) |
| A la Vibora de la Mar | Pre-K – 2nd | Line | $s_1$ d, drm; dd rr $s_1 s_1$ d | Moncada (1997) |
| A Madru Señores | Pre-k – 2nd | Circle |  , s $d^1$, s d | Moncada (1997) |
| A Madru Señores | Kinder – 2nd | Chase |  , s $d^1$, s d | Mendoza (1980) |
| Amo a To | 1st – 2nd | Line |  , s mfs | Moncada (1997) |

(Table 4 continues)

Table 4, continued
*Classroom Analyses for Selected Singing Games*

| Name | Grade | Game | Pedagogical Use | Source |
|---|---|---|---|---|
| Asserin, aserran | Pre-k – kinder | Partner |  , $s_1$ d, $s_1$ r | Moncada (1997) |
| Doña Blanca | 1st – 2nd | Chase |  , mfs $d^1$ | Moncada (1997) |
| El Coyote | Kinder – 2nd | Chase | m s | Mendoza (1980) |
| El Coyotito | Kinder – 2nd | Circle | $s_1$ d, d m | Moncada (1997) |
| El Gato Y El Raton | Kinder – 1st | Chase |  | Moncada (1997) |
| El Lobo | Kinder – 2nd | Chase | s m | Mendoza (1980) |
| El Patio de Mi Casa | Pre-k – 2nd | Circle | d $s_1$ d m d,  | Montoya-Stier |
| El Patio de Mi Casa | Pre-k – 2nd | Circle | d $s_1$ d m d | Moncada (1997) |
| Emiliano | Kinder – 1st | Chase | $s_1$ d $s_1$ d m d | Moncada (1997) |

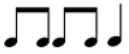
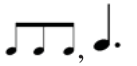
(Table 4 continues)

Table 4, continued
*Classroom Analyses for Selected Singing Games*

| Name | Grade | Game | Pedagogical Use | Source |
|---|---|---|---|---|
| La Cucaracha | Kinder – 1st | Chase |  | Mendoza (1980) |
| La Muñeca | Pre-k – 1st | Circle |  , s $d^1$ s | Moncada (1997) |
| La Muñequita | Pre-k – 1st | Circle |  , s $d^1$ s | Mendoza (1997) |
| La Pelota Cantadora | 1st – 2nd | Ball | solo singing | CONAFE (1989) |
| La Virgen de la Cueva | Pre-K – 1st | Circle | m l s, s d | Díaz Roig (1996) |
| Las Cascaras de Huevo | Pre-k – 1st | Action |  | Mendoza (1980) |
| Las Estatuas de Marfil | Pre-k – 1st | Action, Freeze | $s_1$ d $s_1$ d m d,  | Montoya-Stier |
| Las Estatuas de Marfil | Pre-k – 1st | Action, Freeze | $s_1$ d $s_1$ d m d,  | Moncada (1997) |
| Las Horas | Pre-k – 2nd | Circle |  , drm | Mendoza (1980) |
| Los Caballitos | Pre-k – kinder | Partner |  ,  , beat | Mendoza (1980) |

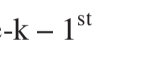
(Table 4 continues)

Table 4, continued
*Classroom Analyses for Selected Singing Games*

| Name | Grade | Game | Pedagogical Use | Source |
|---|---|---|---|---|
| Los Caracoles | Kinder – 2nd | Circle / line |  | Mendoza (1980) |
| Matarile-rile-ro | 1st – 2nd | Line |  , s mfs, s d | Mendoza (1980) |
| Milano | Kinder – 2nd | Chase | fa,  | Mendoza (1980) |
| Naranja Dulce | Pre-k – 1st | Circle | 3/4,  | Mendoza (1980) |
| Que Llueva, Que Llueva | Pre-k – 1st | Circle | m s l, s d | Mendoza (1980) |
| San Miguelito | Pre-k – kinder | Jumping |  | Mendoza (1980) |
| San Serafin | Pre-k – 1st | Action | d $s_1 s_1$ d r d $s_1$,  | Mendoza (1980) |

(Table 4 continues)

Table 4, continued
*Classroom Analyses for Selected Singing Games*

| Name | Grade | Game | Pedagogical Use | Source |
|---|---|---|---|---|
| San Serafin | Pre-k – 1st | Action | d $s_1 s_1$ d r d $s_1$,  | Moncada (1997) |
| Tortillitas de Manteca | Pre-k – Kinder | Clapping | m d,  | Díaz Roig (1996) |

*Note*. Circle means a game that involves a circle formation. Line means a game that involves a line formation. Chase means a game that involves a student chasing another student. Partner means a game that involves partners. Ball means a game that involves a ball. Action means a game that involves some kind of action usually implied in the text. Jumping means a game that involves jumping.

Table 5
*Melodic and Rhythmic Analyses for Selected Song Tales*

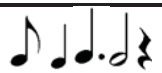
| | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| Name | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| Alfonso XII | ltdrmf | la hexachord | 1 – 6 | A B | 3/4 |  | A A |
| Don Gato | $s_1$ $t_1$drmfsl | major | V – 6 | A B C D | 6/8 |  | A A' A'' B |
| El Calaveron | $t_1$drmf | major | VII – 4 | A B C D | 3/4 |  | A B A B |
| Los Diez Perritos | $s_1$ $t_1$drmfsl $d^1$ | major | V – 8 | A A B C D | 2/4 |  | A A A B C |

Table 6
*Classroom Analyses for Selected Song Tales*

| Name | Pedagogical Use | Source |
|---|---|---|
| Alfonso XII | l d m, 3/4, listening | Moncada (1997) |
| Don Gato | listening | Mendoza (1980) |
| El Calaveron | Days of week | Mendoza (1980) |
| Los Diez Perritos | mfs $d^1$tls, listening | Mendoza (1980) |

Table 7
*Melodic and Rhythmic Analyses for Selected Traditional Christmas Songs*

| | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| Name | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| Las Posadas | $s_1$ drmfsl | Extended do hexachord | V – 6 | A B | 4/4 |  | A A’ |
| Los Aguinaldos | $t_1$drmfsl | major | VII – 6 | A B | 4/4 |  | A A |
| Para Quebrar la Pinata | $m_1$ $s_1l_1t_1$d | do pentatone | III – 1 | A A | 2/4 |  | A A |

Table 8
*Classroom Analyses for Selected Traditional Christmas Songs*

| Name | Pedagogical Use | Source |
|---|---|---|
| Las Posadas |  | Paredes (1976) |
| Los Aguinaldos |  | Paredes (1976) |
| Para Quebrar la Piñata |  , s m | Mendoza (1980) |

Table 9
*Melodic and Rhythmic Analyses for Selected Lullabies*

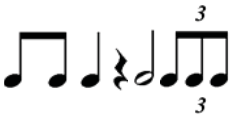
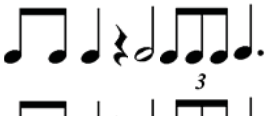
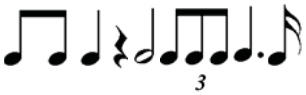
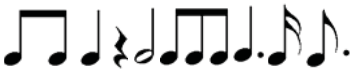
| | Melodic Analyses | | | | Rhythmic Analyses | | |
|---|---|---|---|---|---|---|---|
| Name | Tone Set | Scale | Range | Form | Meter | Note Values | Form |
| Campanita De Oro | $s_1l_1t_1\underline{d}r$ | do pentachord | V – 2 | A B C D | 2/4 |  | A A A A |
| Dormite Mi Niño | (d)r<u>m</u>fsltd[1] | major | 2 – 8 | A B | 6/8 |  | A A |
| Duermete Niño | <u>d</u>rm sl | do pentatone | 1 – 6 | A B | 6/8 |  | A A’ |
| Este Niño Lindo | $d_1r_1m_1f_1\underline{s}l$ | so hexachord | IV – 2 | A A | 4/4 |  | A A |
| Este Niño Lindo | <u>s</u>ltdrmfs[1] | mixolydian | 1 – 8 | A B | 3/4 |  | A A |
| Rorro que rorro | $s_1$ drmf fi sl | do hexachord With altered fi | V – 6 | A B | 6/8 |  | A B |
| Señora Santa Ana | d mfsltd[1] | major | 1 – 8 | A B | 2/4, 3/4 |  | A A |
| Señora Santa Ana | $s_1$ dr ri mfsl | major | V – 6 | A B | 2/4 |  | A B |

Table 10
*Classroom Analyses for Selected Lullabies*

| Name | Pedagogical Use | Source |
|---|---|---|
| Campanita de Oro |  | Mendoza (1980) |
| Dormite Mi Niño | Listening | Moncada (1997) |
| Duermete Niño |  | Moncada (1997) |
| Este Niño Lindo |  | Díaz Roig (1996) |
| Este Niño Lindo | Listening | Moncada (1997) |
| Rorro que rorro |  | Moncada (1997) |
| Señora Santa Ana |  | Moncada (1997) |
| Señora Santa Ana |  | Paredes (1976) |

*Sequences*

After doing a careful analysis of the rhythmic and melodic content of the selected folk songs and chants, rhythmic and melodic sequences were formulated. Rhythmically, the sequence was derived based on the frequency of each rhythmic element from selected repertoire appropriate for each grade level. For example, there are eight folk songs containing the first suggested rhythmic element that are appropriate for first and second grade. The suggested sequence is in duple meter.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 6/8 and 3/8

Melodically, the sequence was derived based on the frequency of the elements in age appropriate folk songs and on the ease of teaching these melodic elements.

1. d m
2. $s_1$ d m
3. $s_1$ drm
4. $s_1$ drm s
5. $s_1$ drm sl
6. $s_1$ drmfsl
7. $s_1t_1$drmfsl
8. major, minor, mixolydian

*Summary*

Two American and five Mexican sources were found to meet the criteria set forth in the Method section. These sources yielded 8 rhymes, 8 chants, 37 singing games, 4 song tales, 3 Christmas songs, and 8 lullabies. The selections were analyzed and put into the folksong retrieval format except for the rhymes. I provided a classroom analysis and background information for each rhyme. Summary tables for melodic analyses, rhythmic analyses, and classroom analyses were provided for each rhyme, chant, singing game, song tale, traditional Christmas song, and lullaby. A rhythmic and melodic sequence was derived from this analysis based upon the frequency of the musical elements in age appropriate folk songs and chants and ease of teaching these musical elements. Kodály music educators can follow these sequences if they are in the unique situation of teaching only children of Mexican descent. Alternatively, they can incorporate some of these folk songs and the suggested sequences into their own programs depending on their student populations, bilingual philosophy, and folk song collection.

## Discussion

The purpose of this study was to produce a collection of authentic Mexican folk songs for children appropriate for use in the general music classroom. Specifically, this project was an attempt to provide Kodály educators with a resource that meets the criteria set forth in the Kodály philosophy as described by Lund (1991). It attempted to address the musical, emotional, and cultural needs of children of Mexican descent. The Kodály educator can select repertoire from this collection and incorporate it into an existing collection. The extent to which Kodály educators incorporate this repertoire into their own teaching situations will depend on the number of children of Mexican descent in their classrooms, bilingual philosophy, and folk song collections. For example, if a Kodály educator has a bilingual first grade class where the students are learning all the academic subjects in Spanish including reading, the majority of the Kodály educator's core repertoire could be Mexican singing games, chants, and rhymes. Any American singing games, chants, or rhymes would be classified as English as a Second Language instruction.

*Recommendations*

This collection provides folk song material for Pre-k through third grade. Some of the chants can be used in 3rd and 4th grade, but the repertoire as a whole is insufficient for upper elementary grades. More research is needed to locate additional Mexican children's folk songs

in general, but especially for 3rd through 5th grade. More research is needed for folk song collections of the different sub-cultures within the Hispanic population.

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# The Effect of Laban Effort/Shape Instruction on Young Conductors' Perception of Expressiveness Across Arts Disciplines

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Artistic disciplines provide a means to explore conditions of humanity. Through artistic expression, internal thoughts and feelings may be externalized and shared with others. Music contains many properties through which human feeling may be communicated. According to Langer (1953), "the function of music is not stimulation of feeling, but expression of it" (p. 28). Through music, humans express their inner selves and perceive the expression of others. The American College Dictionary defines expressive as "conveying, or being capable of conveying a thought, intention, emotion, etc. in an effective or vivid manner" (Barnhart, 1961, p. 426). Based on this definition, expressiveness in this article is considered the ability to communicate inner thoughts, intentions, and emotions through external movement.

Conducting teachers have long been concerned about the expressive skills of music educators. "Many conductors in educational settings operate only at the most basic level in their conducting skills" (Benge, 1997, p. iv). Although music educators spend a large portion of their teaching time engaged in conducting activities, many have not developed the expressive aspect of this art. They are more likely to speak expressively than to move expressively. A deficiency in expressive movement forces music educators to stop the music making process and verbalize musical intentions. However, "Nonverbal communication theorists … suggest that the verbal part of a message…accounts for less than 10% of the impact of the message" (Julian, 1989, p. 49). The expressive content of a physical gesture is far more effective in conveying a message to musicians than is the verbal content. According to Bartee (1977), "body movement may at times be the only means of clearly expressing what is in the score, since verbal explanation is sometimes inadequate to convey the message of a composition" (p. 149). Conductors with highly expressive physical abilities are better able to communicate with musicians in a manner full of feeling.

Although communication occurs through expressive body language, meaning is dependent upon perception. In fact, "Gestalt psychologists hold that expressive behavior reveals its meaning directly in perception" (Arnheim, 1949, p. 160). The conductor therefore must utilize expressive movement to convey musical feelings in a clearly perceptible manner. "If the conductor does not understand movement potential and its relationship to the music, his palette is limited to monochromatic expression" (Poch, 1982, p. 21). Utilizing an expressive physical vocabulary, conductors transfer their musical feelings to an ensemble through gesture.

Many conducting teachers struggle to develop the expressive vocabulary of their students. Expressive movement is often misconstrued as a mystical ability that cannot be accurately described. On the contrary, through Rudolf Laban's Effort/Shape theories the elements of expression can be specifically dissected and analyzed, thereby making movement evaluation an objective task that can be learned.

Laban clearly defined the basic elements of physical movement in his Effort/Shape Theory utilizing specific terminology. Effort, as defined by Laban, separates the motion of all living things from mechanical motion. It is an inner impulse from which all movement, voluntary and involuntary, originates (Laban, 1960, p. 24). All human movements begin with an inner impulse or effort. The four factors that make up the physical response to effort are weight, space, time, and flow (Laban, 1960, p. 13).

1. Weight - indicates our ability to move the body weight against the natural laws of gravity. The extremes are heavy or light, with a number of possibilities in between.
2. Space - determined by the distance reached and direction towards which the body moves. The extremes are direct or flexible, with a number of possibilities in between.
3. Time - the amount of time that passes during the execution of a specific movement. Movements are sudden or sustained and generally increase or decrease in speed.
4. Flow – the order in which the body parts are set into motion. Movements beginning in the center of the body and moving out towards the extremities are considered centralized and appear to flow more freely than do movements of the extremities alone. Flow is the essence of change from one body position to another and therefore the essence of movement.

These terms provide a framework through which to identify and discuss specific elements of effort. All are present in every body movement and can be identified as adding to or detracting from the effectiveness of the expression. Laban believed that when the effort elements are used well, an economy of effort is apparent, in which movements are efficient and seem effortless (Laban, 1960, p. 6).

Shape, according to Laban, can be explored within the *sphere of movement*. With all limbs extended, "the imaginary inner wall of this sphere can be touched by hands and feet, and all points of it can be reached" (Laban, 1963, p. 83). Individual movements and combinations of movements within the sphere result in factors of shape. Movements executed on an endless number of planes within the sphere leave behind a *trace form* (Laban, 1966, p. 5). The trace form reflects the lingering impression of the shape as drawn in space by our movements. The *shadow form* refers to any movement, usually unintended, that may contradict the intentions of the trace form (Bartee, 1977). The trace form is most effective when the shadow form does not interfere but instead supports the intention of the trace form (Laban, 1966).

Laban's Effort/Shape Theory provides a means by which we can explore and define expressive movement through the externalization of internal effort and use of spatial patterns (Thornton, 1971). By mastering physical body movement, the conductor becomes capable of showing even slight or subtle differences in musical intent. If Laban techniques are used to increase awareness of expressive movement (through observation, kinesthetic application, and evaluation) perhaps conducting students will develop greater expressive capabilities.

The purposes of this study were a) to determine if Laban Effort/Shape instruction affects young conductors' ability to perceive expressiveness in movement, b) to determine if Laban Effort/Shape instruction affects young conductors' comfort level with the task of evaluating expressive movement, c) to determine if differences exist in young conductors' expressive

evaluations across four artistic disciplines (conducting, dance, figure skating, and mime), and d) to discover trends that may emerge in subjects' motivations when making evaluative decisions.

## Method

Subjects ($N = 54$) were enrolled in two different sections of an undergraduate conducting course at a large Midwestern university. For the purpose of scheduling the study within the pre-existing syllabus, section 1 was designated the control group and section 2 the treatment group. The treatment period consisted of four 50-minute class periods of Effort/Shape instruction that occurred within a two-week period.

Measurement instruments included a pre-course questionnaire to gather demographic information about the subjects and a test of videotaped examples with accompanying answer sheet. The videotape consisted of 12 silent examples of expressive movement representing the disciplines of conducting, dance, figure skating, and mime. An expert panel was used to determine the expressive levels of the examples (low, medium, and high) and for comparison against the ratings of subjects. Three randomized orders of videotaped examples were used for the pretest, posttest, and re-posttest. The corresponding answer sheet provided scales for subjects to rate the expressiveness of each videotaped example. Subjects also rated their level of comfort with the task and wrote a short response about what motivated them when making evaluative decisions.

## Results

All data were entered into SPSS 10.0 for Macintosh for statistical analysis. Because I was able to determine that the pretest had no effect on subsequent test scores, posttest scores of treatment groups 1 and 3 were combined and compared to the combined posttest scores of control groups 2 and 4. A Two-way Analysis of Variance with repeated measures was used to determine if significant differences ($p \leq .05$) existed in subjects' agreement scores on the posttest by treatment and discipline.

A significant main effect difference was found for discipline but not for treatment (see Table 1). The interaction of treatment and discipline was also significant (see Figure 1). To further examine the results of this two-way interaction, a series of independent sample *t*-tests were calculated to determine if any significant differences existed in the agreement scores of treatment and control groups in each of the four disciplines. A significant difference was found in the discipline of conducting. Differences in the other three disciplines were slight and not significant (see Table 2).

The mean agreement scores also indicated in which disciplines subjects most agreed with the experts. The treatment group was in greatest to least agreement with the experts in the disciplines of mime, dance, figure skating, and conducting, respectively. The control group was in agreement from greatest to least in the disciplines of conducting, mime, dance, and figure skating, respectively (see Table 2).

Table 1
*Two-way Analysis of Variance for Agreement Scores by Treatment and Discipline at the Posttest*

| Source | *df* | *MS* | *F* | *p* |
|---|---|---|---|---|
| | | Between Subjects | | |
| Treatment (A) | 1 | 2.01 | 2.50 | .12 |
| | | Within Subjects | | |
| Discipline (B) | 3 | 1.96 | 3.85 | .01 |
| A x B | 3 | 2.90 | 5.70 | .00 |
| Error of B | 156 | .51 | | |

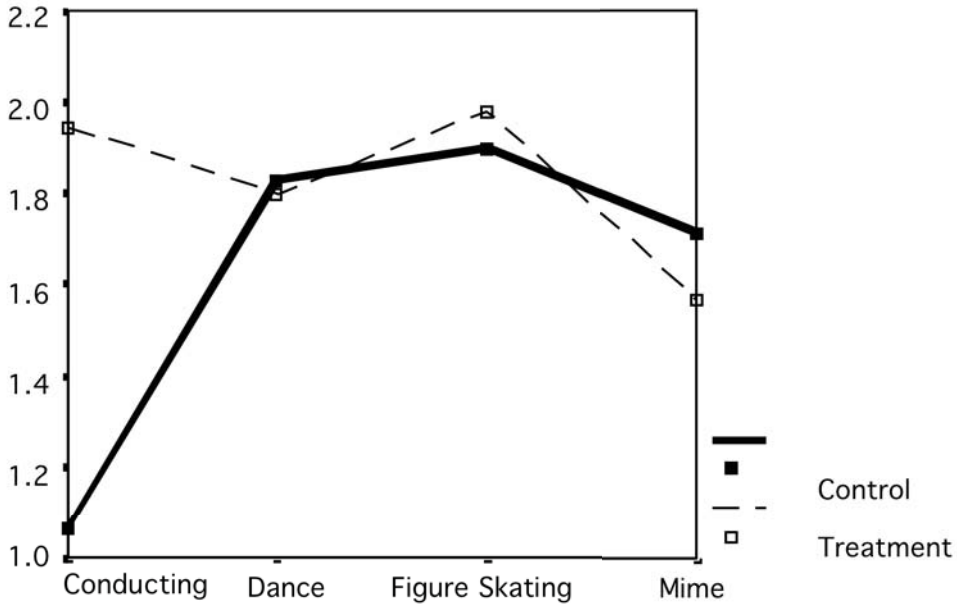


*Figure 1.* Interaction of treatment and discipline for Ho1.

Table 2
*Independent Sample* t-*test Analysis for Interaction of Treatment and Discipline for Ho1*

| Discipline | Control ($n$ = 25) | Treatment ($n$ = 29) | *t* | *df* | *p* |
|---|---|---|---|---|---|
| Conducting | | | | | |
| MS– Agreement | 1.07 | 1.95 | -3.95 | 52 | .00 |
| SD | .65 | .94 | | | |
| *Dance | | | | | |
| MS - Agreement | 1.83 | 1.80 | .17 | 47 | .87 |
| SD | .49 | .81 | | | |
| Figure Skating | | | | | |
| MS - Agreement | 1.90 | 1.98 | -.42 | 52 | .68 |
| SD | .62 | .80 | | | |
| Mime | | | | | |
| MS - Agreement | 1.71 | 1.57 | .63 | 52 | .53 |
| SD | .96 | .72 | | | |

* Unequal variances assumed.

Comfort level data were analyzed using subjects' comfort ratings at the pretest, posttest, and re-posttest condition. Because the number of subjects differed at each test condition, a series of independent sample *t*-tests were used to analyze the data. Although no significant differences were found between the treatment and control groups at the pretest and posttest condition, the treatment group was found to be significantly more comfortable than the control group with evaluating expression at the re-posttest condition (see Table 3).

Table 3
*Independent Sample* t-*tests of Comfort Level Scores for Treatment and Control Groups at Each Test Condition*

| Test Condition | Control | Treatment | *t* | *df* | *p* |
|---|---|---|---|---|---|
| Pretest | | | | | |
| n | 11 | 14 | | | |
| Mean | 5.91 | 6.07 | .23 | 23 | .82 |
| SD | 1.92 | 1.64 | | | |
| Posttest | | | | | |
| n | 25 | 29 | | | |
| Mean | 6.04 | 6.83 | 1.83 | 52 | .07 |
| SD | 1.79 | 1.36 | | | |
| *Re-posttest | | | | | |
| n | 23 | 25 | | | |
| Mean | 6.20 | 7.04 | 2.12 | 31.18 | .04 |
| SD | 1.74 | .84 | | | |

* Unequal variances assumed.

Participants responded to the following open-ended question on the Expressive Ratings Form: What aspects of the examples you viewed motivated you to rate some performances as being more expressive than other performances? The data of both the treatment and control groups were studied at each test condition. Participant answers were thoroughly reviewed and coded into categories (see Table 4).

Table 4
*Codebook of Participant Responses*

| **General Code** | **Participant Responses Within Corresponding Code** | **Parallel Laban Vocabulary** |
|---|---|---|
| Comfort/Confidence | Inhibited/Uninhibited<br>Natural/Unnatural<br>Composed/Awkward<br>Secure/Insecure<br>Will/Commitment Behind Action | Shadow Form |
| Convey Emotion | Express Thoughts and Ideas<br>Elicit Emotional Response<br>Show Passion<br>Show Genuine Emotion | |
| Costume | | |
| Entire Body | Whole or Limited Parts | Flow |
| Facial Expression | | |
| Fluidity | Rigid/Lyrical Movement<br>Ease of Transitions<br>Continuity | Flow |
| Knowledge of Discipline | Personal Training/Lack of Training | |
| Lack of Sound | No Music | |
| Quality of Execution | Technique/Skill Level<br>Polished Performance | Weight/Space/Time/Flow |
| Range of Motion | Small/Large Gestures<br>Amount of Movement | Space |
| Speed of Motion | Slow/Fast Movements | Weight/Time |
| Tempo Fluctuation | Rhythm of Gestures<br>Flexible Tempo | Time |
| ***Laban Code*** | | |
| Torso | | |
| Laban Vocabulary:<br>Weight<br>Space<br>Time<br>Flow<br>Sphere of Movement<br>Trace Form<br>Shadow Form | <br><br><br><br><br><br>Clarity/Variety of Form<br>Contradiction Between Motion and Intent | |

I had expected the treatment group to use Laban vocabulary and therefore included this code prior to data analysis. Participant responses were assigned to the code of "Laban vocabulary" through deductive application. The remaining codes were derived inductively by uncovering patterns in the data upon repeated review. Most code names represent direct quotes from the data. Additional participant responses that did not directly quote the title of a code but contained the same meaning were considered part of the corresponding code (see Table 4). Category divisions were readily apparent; therefore codes were assigned with a low level of inference. As the coded categories emerged from the data, an unexpected relationship became apparent, showing a direct parallel between some codes and the specific Laban vocabulary discussed and defined during the treatment period (see Table 4).

The frequency of responses within the coded categories at the pretest condition was compared between the treatment ($n$ = 14) and control ($n$ = 11) groups (see Figure 2). Codes appearing at the pretest condition were relatively consistent in their relationship. The most difference between the treatment and control groups fell within the range of 0–2 appearances. There were two exceptions: the code "convey emotion" appeared more frequently in treatment group responses and the code "entire body" appeared more frequently in control group responses. Frequency of the remaining codes showed great similarity in pretest responses. In addition, both groups used general terms that fit into the general codes. The specific codes of "torso" and "Laban vocabulary" were not used; therefore, I had no reason to believe there were differences between the two groups prior to treatment.

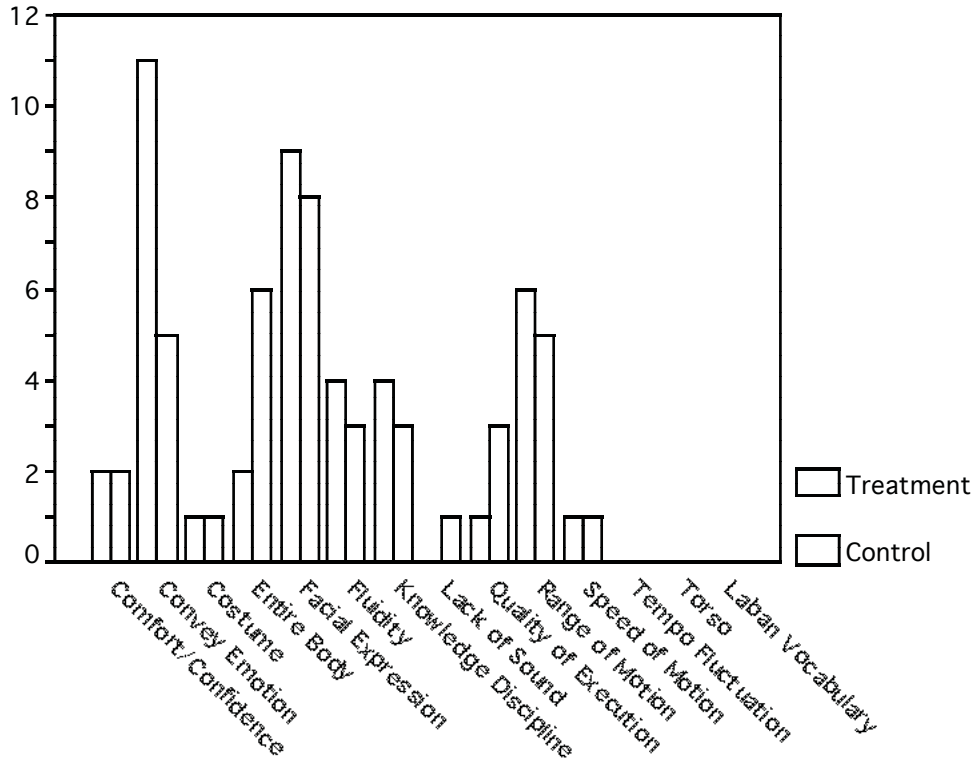


*Figure 2*. Frequency of pretest codes by group.

The frequency of responses within the coded categories at the posttest condition were also compared between the treatment ($n$ = 29) and control ($n$ = 25) groups (see Figure 3). Three codes used at the posttest condition were not present in the pretest data (tempo fluctuation, torso, and Laban vocabulary). The most frequent codes used by the treatment group were "torso" and "Laban vocabulary," both of which were presented during the treatment period. The specific Laban vocabulary terms used were elements of the Effort/Shape theory as presented to the treatment group including weight, space, time, flow, sphere of movement, trace form, and shadow form. Use of the torso was also discussed at length due to its importance in Laban's concept of "centralized flow." The control group mentioned "torso" only once and did not use other Laban vocabulary at all.

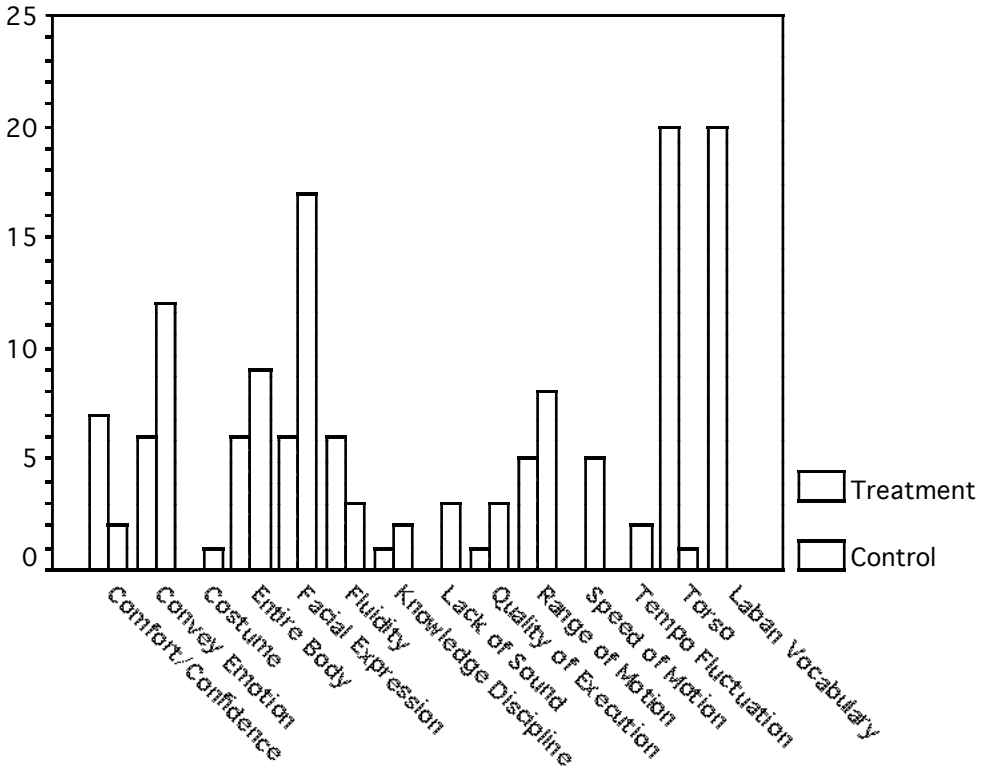


*Figure 3*. Frequency of posttest codes by group.

Frequency of the posttest codes differed greatly between the two groups (see Figure 3). Four codes (costume, lack of sound, speed of motion, and tempo fluctuation) appeared in control group responses but not at all in the treatment group responses. The codes "comfort/confidence" and "fluidity," both of which have a direct parallel to Laban concepts, appeared more frequently in treatment responses than in control responses. The remaining general codes appeared in the treatment group responses but with less frequency than in control group responses.

The most frequent codes used by the control group were "facial expression" followed by "convey emotion," neither of which have a parallel Laban concept (see Table 4). These two codes appeared in the control data more than twice as frequently as in the treatment data. Other codes that frequently appeared in the control data were "entire body", "range of motion", and "speed of motion", all of which have parallel Laban concepts.

The control group responses fell under codes that were general descriptors (see Figure 3). The additional codes of "torso" and "Laban vocabulary," hardly used by the control group but greatly used by the treatment group, include far more specific descriptors of the same expressive factors.

## Discussion

After Effort/Shape instruction subjects were better able to distinguish between levels of expression and used a broader range of expressive ratings. Treatment subjects became more critical of conducting examples than of other disciplines. Effort/Shape training significantly increased the comfort level of subjects over time. The treatment group also used specific Laban terms and referred to use of the torso, while the control group responded using general terms. The use of Laban vocabulary coincided with an increased comfort level and heightened ability to distinguish between levels of expressive movement.

Conclusions drawn from the current study have the following implications for the music education profession:

- Effort/Shape instruction can positively influence young conductors by increasing their awareness of expressive qualities and enabling them to discuss their observations in a thorough manner.
- The increased awareness and use of specific vocabulary can make students better critics of themselves and others, leading to greater individual expressive development.
- Effort/Shape instruction can provide conducting teachers with a vocabulary to specifically define and discuss the elements of expressive movement with students.
- Conducting instructors can also teach in a more individualized manner by providing specific feedback for students through the Laban vocabulary.
- With a foundation of Effort/Shape principles, expressive movement qualities can be developed gradually along with technical skills throughout a conducting curriculum.

Further research is needed in the discipline of developing the expressive perceptions of conducting students prior to physical execution. The ability to kinesthetically express musical thought is first an internal process. Students must possess a conceptual understanding of expressive possibilities before they can externally express themselves. A replication of the present study would be useful with several changes. First, the expert panel could consist of experts who have also received Laban training to establish greater consistency between the experts and the subjects. Second, allowing a period of time for reinforcement of the Effort/Shape principles could prove to be beneficial over time. Finally, a longer treatment period may provide time for students to physically apply the expressive perceptions and confidence gained from Laban instruction.

Traditional conducting courses tend to stress technical skills rather than expressive, assuming expressive skills will develop over time. It may instead be valuable to stress elements of physical expression, allowing technical skills to develop with time. An expressive foundation must be laid before kinesthetic expression can be mastered.

The present study demonstrated that Laban Effort/Shape instruction helped students discriminate between levels of expression and enabled them to discuss their observations more specifically. In fact, they became notably critical of the expressive abilities of conductors, which may make them more critical of themselves and therefore able to further develop their own conducting. In addition, greater awareness of expressive elements paralleled a significant rise in students' level of comfort with the subject of movement. A combination of the two may provide a solid foundation on which to build when striving towards a mastery of kinesthetic expression. Refined expressive abilities are characteristic of those who understand, are comfortable with, and eventually master the expressive elements required for feelingful conducting.

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# Motivating Factors for Students Participating in High School Orchestra Programs and Music Enrichment Activities

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The opportunity to participate in music programs is offered to high school students across America. Secondary orchestra music educators work to develop excellence in their programs and encourage high school students to enroll in their classes. Once students have enrolled, orchestra directors strive to provide a variety of activities to enrich the students' musical experience. Since orchestra programs need student participation to be successful, teachers need to know students' motivation to register for orchestra in high school.

Reimer (1997) notes that, although performing experience is given to almost all children in general music, only 9 to 15% perform in school-sponsored ensembles. The low participation rate could suggest that motivating factors for enrollment need to be determined. This, in turn, could provide opportunities not only to increase enrollment, but also to enrich curricula.

According to Schopp (1992), students enroll in high school performing groups for four reasons: (1) to experience the music, (b) to have individual self-esteem through a sense of achievement that comes with a good musical performance, (c) to seriously study instrumental or vocal music, and (d) to have a certain teacher as their director. Killian (1988) suggested that students elect choir because of their love of music and singing. She further reported that some students enroll in choirs to be with friends, to be accepted, and to feel wanted. Adderley, Kennedy, and Berz (2003) conducted structured interviews with 60 high school band, choir, and orchestra students (20 from each group) and found that students join ensembles for musical, social, academic, and family motivations.

Neill (1998) surveyed 1,020 choral students from various performing ensembles in the Midwest, including an all-state choir, choruses performing for a state convention, members of auditioned and non-auditioned large, and small high school choruses. She found that students were motivated to enroll for choir because they: 1) love to sing; 2) love to perform; 3) had a previous choral experience; 4) had an opportunity to travel with the choir; 5) had heard of the teacher's reputation; 6) could fulfill their fine arts requirement; 7) had parental encouragement; and 8) had friends who decided to participate. Students also indicated that their favorite part of the ensemble was singing followed by concerts and then friends. Their least favorite components of choir were choral tests, fund-raising, and extra rehearsals outside of class.

Kennedy (2002) found middle school boys were influenced to join choir because of their love of singing, teacher influence, and peer influence. Parsons (1983) focused on two components for

children's motivation to study music: expectation for success and subjective task value. Confidence in musical ability, willingness to expend varying amounts of effort, and belief in the limitations of talent or natural ability have a strong impact on children's motivation to study and practice music. An investigation of active high school band participants and senior students no longer participating in band revealed that students' decisions to enroll were affected by enjoyment of performing, attraction toward music, attitude toward rehearsal scheduling, and overall positive general attitude toward the band program (Anthony, 1974).

Bowles (1991), Gleason (1992), and Wapnick (1976) all found that ensemble members with positive attitudes are more likely to be active participants. Frakes (1984) designed a questionnaire to investigate factors influencing attitudes of ensemble participants, non-participants, and dropouts among graduates from a single school district. Teacher, course content, self-perception, interest, family influences, and time involvement all were found to correlate significantly with student attitude toward participation.

Madsen and Yarbrough (1985) suggested the most important reason students choose to involve themselves in music is the music itself. An investigation of students ($N$ = 169) in a rural, ethnic community found strong relationships between level of school music participation and the following: home musical environment, attitude toward school musical activities, self-appraisal of musical skills, and grade levels (Kehrberg, 1984).

Conway and Borst (2001) studied personal factors that determined what motivated graduating middle school choral students to enroll in high school choir. They considered musical and non-musical experiences, which influenced student's decisions. Experiences were divided into seven types of singing: for learning's sake, for self-expression, for social and group reasons, for enjoyment, for performance, to be identified with the school program, and for the music itself.

Social interaction has been cited as a reason for participation in musical ensembles (Anthony, 1974; Hurley, 1995; Mullins, 1981; Powell, 1984). In a study of students' justifications for high school performance courses 82% of respondents indicated that they elect music classes for personal and social reasons (Eckel, 1995). Students also stated an appreciation for the educational aspects of music but indicated that this was not the primary reason for music participation. Fredrickson (1997) felt that teachers should be aware of the importance of social context. Additionally, he stated, "a sensitivity to student perception may be our best defense against students' 'good' or 'real' reasons not to participate in music" (p.31).

Schopp (1992) indicated that experiences within school performing groups, rather than the "desire to be professional musicians in a Broadway pit or a recording studio" (p.14), motivate a majority of students to continue in music. Parsons (1983) studied children's' motivation to study music and found that continued participation was motivated by previous experience. Students' decision to participate in various high school activities can be positively influenced by peers (Claire, 1993; Royse, 1989). Family influence and opinion can also persuade students to participate (Gustafson; Royse, 1989).

The purpose of this study was to discover what factors motivate high school students to enroll in school orchestras and to determine students' perceptions of the best and worst aspects of the orchestral experience. Two Texas high school orchestra programs in the northeast region were identified for their exemplary curricula and ensembles. Their ensembles have performed at state and national conventions. The high schools are classified as 5A, with similar demographics, student population, and make-up.

## Method

Surveys were designed from a similar survey used for another study (Neill, 1998), which determined why choral students enrolled in high school choir. Wording was changed to indicate orchestra involvement rather than choral. The motivating factors listed in the survey were determined through interviews with choral and orchestra directors ($N$ = 40) from various states. In addition, one area was added concerning UIL participation.

Two 5A high school orchestra students ($N$=379) completed the survey "Why I am in Orchestra". The orchestra director from each school read a script before the students took the survey. Each school's principal approved the survey and students were not required to take the survey.

## Results

Students were asked to rate degrees of influence for selected motivating factors on a 10-point Likert-type scale. Overall responses were tabulated to determine group means (See Table 1). The strongest reported factor of influence was "opportunity to play" (M = 7.66). The weakest reported influence was "friend(s) decision to participate" (M = 6.1).

Table 1
*Combined Groups' Reported Influence for Selected Predetermined Factors of Motivation for High School Orchestra Enrollment*

| Motivating Factors | Influence rating *M* |
|---|---|
| Opportunity to play | 7.66 |
| Opportunity to perform | 7.38 |
| Previous orchestra experience | 7.15 |
| Opportunity to travel with orchestra | 7.00 |
| Orchestra program's reputation | 6.99 |
| Parental encouragement | 6.78 |
| Orchestra Teacher's reputation | 6.2 |
| Friend(s) decision to participate | 6.1 |

*Note*. 1 = no influence, 10 = strong influence.

Ensemble members were also asked to check three favorite and least favorite aspects of their orchestral experiences. Individual responses were cross-tabulated for overall results category totals (see Table 2). Responses revealed that students' most favorite activity was "being with friends" and the least favorite was "extra rehearsals outside of class."

Table 2
*Combined Groups' Responses Indicating Favorite and Least Favorite Aspects of High School Orchestra Experience*

| Aspects | Responses For favorite (% of total) | Responses for least favorite (% of total) |
|---|---|---|
| Trips | 24 | 1 |
| Being with friends | 22 | 0 |
| Playing my instrument with orchestra | 17 | 1 |
| Concerts | 10 | 7 |
| Social events with the orchestra | 8 | 4 |
| The teacher | 8 | 4 |
| Praise & congratulations from peers And/or family for playing in the orchestra | 7 | 2 |
| UIL Participation (CSR) | 2 | 19 |
| Class Rehearsals | 2 | 12 |
| Extra Rehearsals outside of class | 0 | 32 |
| Fund Raising | 0 | 18 |
| Total | 100 | Total 100 |

## Discussion

The highest motivational factor for high school orchestra class enrollment was "the opportunity to play." This finding is in agreement with previous investigations of choral students, who indicated that "the opportunity to sing" was the number one reason to enroll in a choral ensemble (Neill, 1998). Previous research also found that enjoyment and love of singing were good predictors of students' involvement in choral music activities. (Fuller, 1990; Killian, 1988; Tironi, 1996),

Students were given the opportunity to respond in an "Other" category in the "Influence" section. Responses in this group included "love of music" as the highest percentage of open-ended answers (26% of total responses). Comments included, "just all around love to play," "enjoying the pieces," and "just playing–period." For the ensemble members in this study, "playing" was the best motivation to register for orchestra.

Data from the present study (as well as from the Neill, 1998 choral study) indicate that "Opportunity to perform" was the second highest influence on decisions to register for orchestra. Related literature also reported that performance is a good motivating factor for enrollment (Anthony, 1974; Bridges, 1996; Csikszentmihalyi, Rathunde, & Whalens, 1993;' Eckel, 1995; Gates, 1991: Koutz, 1987; Madsen & Yarbrough, 1985). Previous orchestra experience was the third influence in this study. This is also what was found in the similar choral study (Neill, 1998). Previous musical experience was a good measure of students' motivation to continue participation in music activities (see Csikszentmihalyi et al., 1993; Parson, 1983; and Schopp,

1992). For high school orchestra directors, this result should be encouraging. Students' previous experience was another positive influence for student enrollment and/or remaining in orchestra.

Out of the nine selected motivating factors listing in the survey, students' overall ratings revealed the reputation of the orchestra program as fourth in the motivation hierarchy. Although previous orchestra experience is rated higher than the orchestra program's reputation, both are related to the orchestra curriculum. These findings suggest that high school orchestra directors need to provide positive experiences through planning, design, and execution of the orchestra curriculum.

The top four areas of influence, opportunity to play, opportunity to perform, previous orchestra experience, and orchestra program's reputation, are factors tied directly to the orchestra ensemble experience. Travel, ranked as the fifth motivating influence, is normally associated with the chance to socialize with peers in another environment. Orchestra directors often provide students opportunities to travel as a means of recruitment or for practical purposes to compete in various festivals or contests. For teachers wanting to recruit students to enroll in orchestra programs, it should be encouraging that "travel" is important, but not the most important factor motivating students to register. This finding is consistent with choral influences (Neill, 1998). The sixth area of influence was not the same as the choral study. My previous survey with choral students revealed that teacher influence was the sixth motivation for enrollment. Orchestra students however, rated "parental encouragement" as the sixth motivator for enrollment. This finding is consistent with Kehrberg's (1984) study, which indicated a strong relationship between levels of music participation and home musical environment. Addition, Royse's (1989) research revealed that parental opinion affected nonmusic majors' decisions to remain in concert band. The fact that parents have a large financial investment (instrument and lessons) would indicate that they would be influential for students enrolling and continuing in an instrumental ensemble.

Teacher influence has been the topic of several studies (Frakes, 1984; Madsen & Yarbrough, 1985) Miller, 1993). Students in this study revealed that teachers' influence was the an important motivating factor for enrollment. Choral students, however, found that teacher influence was the sixth influence rating parental influence lower than teacher.

Consistent with the 1998 choral study, "Friend(s) decision to participate" had the least influence on students to register for orchestra. Related literature has found peer influence to be a strong predictor for continued involvement in sports and music activities (Boyer, 1983; Claire, 1993; Royse, 1989).

Survey administration occurred approximately halfway through the fall semester. Students had had the opportunity to experience many aspects of the total orchestra curriculum. Overall responses regarding the favorite aspect of orchestra were different from the choral responses. Orchestra students' favorite aspect was "trips" (See Table 2) unlike choral students' favorite aspect – singing (Neill, 1998). It was interesting to note that, once students were enrolled, "trips" became the most important part of the overall orchestra experience.

Friendships were the second area of importance to orchestra members surveyed. Students want to play and perform, but "being with friends" becomes important once they become part of the program. "Playing my instrument" was the third overall favorite aspect of orchestra participation. Social events were cited as the next area of favored parts. The "teacher" was the next aspect. High school orchestra directors should be heartened that students enroll for different reasons, but a teacher's leadership enables participants to have a nurturing environment that helps students to form friendships and create a positive social atmosphere.

The number one least favorite activity was "extra rehearsals outside of class" (see Table 1) followed closely by UIL Participation. It is interesting to note that choral student's least favorite activity was "testing" followed closely by fund-raising (Neill, 1998). The two high schools used in this survey did not have to do a large amount of fund raising because of active booster clubs. Had this not been the case, these results might have been different.

UIL participation is perhaps related to extra rehearsals outside of the regular class time. It would appear from students surveyed that, to achieve musical excellence, extra time is needed in addition to school rehearsal schedules. Negative feelings toward orchestra rehearsals should be a cause for concern among orchestra educators. Are rehearsals creative and comprehensive? Are skills isolated or developed in context with literature? Future research needs to address these concerns.

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# Class Piano: Do We Do It All?

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Piano instruction for many is the foray into the world of music literacy and understanding. The piano has long been, not only a medium for performance and self-expression, but also an instrument from which to study the rudiments and structure of music (Uszler, 1992). In most college departments of music, keyboard skill and proficiency is a requirement for all music majors, regardless of degree emphasis (education, performance, composition, etc.) or primary instrument (voice, piano, guitar, flute, etc.). Bobetsky (2004) advises future music educators: "enhancing your piano proficiency will broaden your options in the job market and enrich the musical experiences of both you and your students" (p. 39). Does what we teach students to satisfy piano proficiency requirements for graduation closely relate to their future needs as musicians and educators? How the university music curriculum, particularly class piano requirements, relates to actual needs of musicians in the real world is an important consideration (Giroux, 1992).

The class piano curriculum and keyboard proficiency requirements are somewhat standard for many music departments across the country, although relative emphasis on particular skills or quality of performance standards may vary. What are the common skills that class piano instructors and music education professors claim to be critical for success as a competent musician? Some would argue that these necessary keyboard skills should include: accompanying a soloist or group, playing harmonic progressions and warm-up exercises, providing functional music for the school community (playing the school song or patriotic music for assemblies, music for holidays or other community celebrations), transposing and reducing scores as necessary (Bobetsky, 2004). Although piano skills are recommended by the National Association of Schools of Music (NASM) for music graduates, there is little empirical evidence as to which skills are the most critical in the life of a musician, or the most effective way to achieve those competencies (Betts & Cassidy, 2000).

Group or class piano is the typical mode of instruction for non-piano majors to acquire mandatory keyboard skills. There have been several investigations into various aspects of group keyboard instruction, but none that have considered the relative importance or priority of the specific skills required in the class piano curriculum. Prior studies in the area of class piano have considered the effectiveness of keyboard instruction for musical confidence of pre-service classroom teachers (Dimmick, 1994), the pace of instruction as

related to student ability (Duke & Benson, 2003), the importance of functional keyboard skills in Turkish universities (Kasap, 1999), the effectiveness of computer-assisted instruction (Hall, 2001, practice strategies (Kostka, 2000), and how students value keyboard skills as related to ratings of their own competence (Kostka, 1997).

Another issue of concern is the retention and application of hard-earned keyboard skills. Hines (1994) examined the keyboard skill retention of recent music graduates in four areas of the class piano curriculum in which they had previously passed competency exams: harmonization, improvisation, sight-reading, and scale playing. Only 56% of the recent graduates were able to pass all four exams 12-18 months after satisfying a competency exam, raising the question of functional use and application of skills learned in college. Is the level of proficiency required in college class piano adequate for long-term success in various settings and applications?

Does what is taught in college piano class, have practical importance in the life of a musician? A few studies have examined how well the preparation received in college class piano matches the actual needs of classroom music educators at all levels. Lowder (1983) compared the expectations of college music faculty with recently graduated music educators in regard to practical piano competencies. The music faculty and music graduates agreed on the same top five skills, but in different orders. The ranking of keyboard skills by music faculty were (in order): 1) playing cadences, 2) sight-reading, 3) open score reading, 4) harmonizing melodies, and 5) accompanying. While all these skills may have practical applications for the music teacher, the top-ranked by music professors, "playing cadences," would seem to be more theoretical. The new music teachers ranked their own keyboard skills in the following order of importance: 1) harmonizing melodies, 2) accompanying, 3) playing cadences, 4) sight-reading, and 5) open score reading. Harmonizing melodies and accompanying, the two top-ranked competencies by recent graduates, appear to have the most practical applications for these novice music teachers. Piano skills ranked as less important by both the college music faculty and new music graduates were technical exercises, improvisation, playing patriotic songs, and arpeggios. If these skills have secondary importance, is their relative value equivalent to time spent in the group piano curriculum and practice room?

Redfern (1983) explored the value of piano study and the evolution of functional piano requirements in university music degrees. She found that the skills ranked highest by vocal teachers were (in order): 1) accompanying, 2) playing chord progressions, 3) sight-reading, 4) improvising simple accompaniments, and 5) harmonizing melodies. The ranking of keyboard skills by instrumental teachers was different: 1) playing chord progressions, 2) improvising accompaniments, 3) harmonizing melodies, and 4) accompanying. Redfern concluded that class piano proficiency requirements are typically the same for all music majors regardless of emphasis, and not always related to actual needs in the music classroom.

March (1988) interviewed 60 public school music teachers concerning their use of keyboard skills. Skills rarely used by the teacher were playing modulations, playing piano solos and transposing instrumental parts. Skills used most often were harmonizing melodies, improvising, and sight-reading. These teachers working in the fields of elementary, choral, and instrumental music recommended that future teachers should focus on the following skills: phrasing, sight-reading, harmonizing melodies, correct

fingering, and accompanying. March noted discrepancies between what is listed as class piano requirements, what is actually covered in class, and what practicing music teachers in the field need.

Another more recent study examined the ranking of piano skills for practical use by working music educators. Christensen (2000) conducted a survey of 472 music teachers (band, orchestra, choral, and elementary general music), asking which keyboard skills they felt were most important. Accompanying and score-reading were the highest rated skills of the surveyed teachers, of which very few had a paid accompanist at their disposal. The skills that were the least useful were reading alto or tenor clef, performing piano solos, composing at the keyboard, and transposing.

While others have attempted to identify piano or keyboard skills important to teachers working in the field (Lowder, 1983; Redfern, 1983; March, 1988; Christensen, 2000), the purpose of the current investigation was to identify the skills that current music majors predict as being useful or important to their future careers as musicians and/or educators, and the difficulty level of those skills. Does the focus of current instruction in keyboard skills match the prospective needs of musicians in various fields?

## Method

This study surveyed 171 music majors who were enrolled in required class piano courses at three universities in three states: California (*n*=71), Ohio (*n*=35), and Texas (*n*=65). Sixty percent of the 171 students had not studied piano prior to becoming music majors in college. Slightly over half (51.5%) were in their second semester of group piano. Most of the college students were future music educators (47.4%), followed by performance majors (40%), "other" (13.5%), and theory/composition/history majors (5.3%). In regard to their primary instrument of performance, most (27%) were singers, but most other orchestral and band instruments were also represented. The survey was conducted in the final weeks of the Spring 2004 semester during regular class meetings. (See Appendix for a copy of the survey.) The first page of the survey, in addition to information regarding major emphasis and prior piano study, also included some attitude questions. The 12 keyboard skills listed on the second page were adapted and condensed from Christensen (2000). The college music majors were asked to rank the 12 keyboard skills in two ways:

How difficult is that skill for you personally? (1=least difficult and 12=most difficult)

How important is that skill in your future career? (1=most important and 12=least important).

Mean rankings were determined for each skill. At the bottom of the second page, subjects were asked how much instruction undergraduate music majors should have in each of the same 12 keyboard skills. A number was assigned to each level of emphasis (substantial=4, moderate=3, little=2, and none=1).

## Results

Data were analyzed from 171 respondents. In response to the question "How would you rate the effectiveness of your college piano training in preparing you for your future

career goals?" subjects were positive. Using a five-point Likert-type scale (1=not effective at all, 5=very effective) the mean response was 3.84 (*SD* = .94), with 26% ranking the instruction with a 5 (very effective) and 42% ranking the instruction with a 4, for a total of 68% above average (4 and 5 on the 5-point scale).

The music majors were then asked to "indicate your opinion of how important piano skills are for people in your field," again on a five-point scale (1=not important at all, 5=very important). The average response was 4.22 (*SD* = 1.0). Fifty-two percent felt piano skills were very important (5) and 29% gave a rating of 4 out of 5, for a total of 81% above average.

Concerning the increased availability of digital sequencers, transposers, and recorded accompaniment tracks, the music students were asked, "How much could technology be a substitute for keyboard skills in your field?" Again on a five-point scale (1=not at all, 5=very much) the mean response was 3.0 (*SD* = 1.1).

The final general attitude question on the first page was, "please rate your own attitude and motivation toward piano study." The mean response was 3.8 (*SD* = .94) on the five-point scale (1=very negative, 5=very positive).

On the next section of the survey, class piano students were asked to rank keyboard skills typically taught in a university class piano setting, first, according to difficulty for them (1=least difficult, 12=most difficult). (See Table 1 for the mean ranking of each of the 12 listed keyboard skills.) The four skills ranked as least difficult were: 1) playing scales and technical exercises, 2) playing chord progressions, 3) playing familiar songs by ear, and 4) playing a piano solo. The four skills ranked as most difficult were 1) playing open scores, 2) accompanying a group, 3) accompanying a soloist, and 4) improvising accompaniments.

Table 1
*Mean Rankings of Keyboard Skills by Level of Personal Difficulty*

| Keyboard skill | Mean ranking | *SD* |
|---|---|---|
| Play scales and technical exercises | 3.72 | 3.2 |
| Harmonize melodies using Roman Numerals | 5.58 | 3.0 |
| Harmonize melodies using pop symbols | 6.13 | 2.9 |
| Transpose harmonized melodies | 7.63 | 2.9 |
| Improvise accompaniments | 7.74 | 2.9 |
| Play a piano solo | 5.29 | 3.2 |
| Sight-read an accompaniment | 7.68 | 3.2 |
| Play open scores (vocal or instrumental) | 8.78 | 2.9 |
| Play familiar songs by ear | 4.90 | 3.1 |
| Play chord progressions | 4.19 | 2.7 |
| Accompany a soloist | 8.44 | 2.8 |
| Accompany a group | 8.56 | 2.9 |

*Note*. 1=least difficult and 12=most difficult, thus, a higher mean would indicate more difficult.

Then, class piano students were asked to rank keyboard skills typically taught in a university class piano setting, "in order of importance for you in your future career, from most important to least important" (1=most important, 12=least important). (See Table 2 below for the mean ranking of each of the twelve listed keyboard skills.)

Table 2
*Mean Rankings of Keyboard Skills by Predicted Level of Importance*

| Keyboard skill | Mean ranking | *SD* |
|---|---|---|
| Play scales and technical exercises | 6.66 | 3.9 |
| Harmonize melodies using Roman Numerals | 6.59 | 3.3 |
| Harmonize melodies using pop symbols | 6.70 | 3.3 |
| Transpose harmonized melodies | 6.53 | 3.0 |
| Improvise accompaniments | 7.19 | 5.7 |
| Play a piano solo | 8.10 | 3.6 |
| Sight-read an accompaniment | 5.73 | 3.2 |
| Play open scores (vocal or instrumental) | 5.80 | 3.5 |
| Play familiar songs by ear | 5.78 | 3.4 |
| Play chord progressions | 5.81 | 3.2 |
| Accompany a soloist | 6.61 | 3.6 |
| Accompany a group | 6.40 | 4.0 |

*Note*. 1= most important and 12=least important, thus, a lower mean indicates greater importance.

Skills that ranked as most important included: 1) sight-reading an accompaniment, 2) playing familiar songs by ear, 3) playing open scores, and 4) playing chord progressions. Skills that were predicted to be least important were: 1) playing a piano solo, 2) improvising accompaniments, 3) harmonizing melodies using pop symbols, and 4) playing scales and technical exercises.

Lastly, subjects were asked, "How much instruction should undergraduate music students receive in the following keyboard skills?" There were four levels of response: substantial=4, moderate=3, little=2, none=1. Table 3 summarizes the instructional priorities for the same 12 keyboard skills. The skills ranked with the lowest instructional priority were: 1) playing familiar songs by ear, and 2) accompanying a group; the skills ranked with the highest instructional priority were: 1) sight-reading an accompaniment, and 2) playing chord progressions.

Table 3
*Mean Rankings of Keyboard Skills by Instructional Priority*

| Keyboard skill | Mean ranking | *SD* |
|---|---|---|
| Play scales and technical exercises | 3.39 | .64 |
| Harmonize melodies using Roman Numerals | 3.35 | .66 |
| Harmonize melodies using pop symbols | 3.18 | .76 |
| Transpose harmonized melodies | 3.18 | .78 |
| Improvise accompaniments | 2.98 | .79 |
| Play a piano solo | 2.89 | .87 |
| Sight-read an accompaniment | 3.46 | .66 |
| Play open scores (vocal or instrumental) | 3.18 | .84 |
| Play familiar songs by ear | 2.79 | .89 |
| Play chord progressions | 3.46 | .65 |
| Accompany a soloist | 2.89 | .90 |
| Accompany a group | 2.88 | .94 |

*Note*. 4= substantial instruction and 1=no instruction.

Table 4 compares the rankings by skill difficulty for students who had and had not studied piano before coming to college. The largest difference between the groups was in the area of sight-reading an accompaniment, with the more experienced pianists ranking it as less difficult. It is interesting to note that the less experienced pianists whose only keyboard experience was in college class piano ranked improvising accompaniments and harmonizing with pop symbols as less difficult than their more experienced peers.

Table 4
*Prior Piano Experience and Mean Ranking of Difficulty*

| | Prior Piano Experience | | | |
|---|---|---|---|---|
| | No | | Yes | |
| Keyboard Skill | Mean rating | *SD* | Mean rating | *SD* |
| Play scales and technical exercises | 3.69 | 3.21 | 3.77 | 3.21 |
| Harmonize melodies using Roman numerals | 5.42 | 3.02 | 5.81 | 3.07 |
| Harmonize melodies using pop symbols | 5.72 | 2.91 | 6.74 | 3.05 |
| Transpose harmonized melodies | 7.55 | 2.81 | 7.75 | 3.11 |
| Improvise accompaniments | 7.26 | 2.81 | 8.43 | 3.04 |
| Play a piano solo | 5.69 | 3.14 | 4.71 | 3.13 |
| Sight-read an accompaniment | 8.28 | 3.02 | 6.78 | 3.17 |
| Play open scores (vocal or instrumental) | 8.90 | 3.08 | 8.61 | 2.56 |
| Play familiar songs by ear | 4.88 | 2.96 | 4.93 | 3.39 |
| Play chord progressions | 4.22 | 2.81 | 4.16 | 2.47 |
| Accompany a soloist | 8.69 | 2.94 | 8.07 | 2.61 |
| Accompany a group | 8.81 | 2.93 | 8.17 | 2.68 |

*Note*. 1=least difficult and 12=most difficult, thus, a higher mean would indicate more difficult.

Another interesting comparison can be made between predicted future importance of keyboard skills by music majors with various degree plans (performance, music education, etc.). Table 5 is a comparison of the mean rankings of future importance by the four groups of students with different career goals. The largest difference was between music education majors and theory/composition/history majors in regard to the importance of 'accompanying a group.' The music education majors' mean ranking was 5.25 while the theory/composition/history majors mean ranking was 10.11. Another considerable difference between the same groups (music education vs. theory/composition/history) was in 'playing chord progressions.' This time the ranking was reversed with music education majors at 6.35 and theory/composition/history majors at 2.67. Another notable difference was in the area of 'improvising accompaniments.' For performance majors improvising accompaniments was ranked lower (8.22) than for the theory/composition/history majors (4.56).

Table 5
*Degree Emphasis and Future Importance of Keyboard Skills*

| Keyboard Skills | Music Ed | | Performance | | Theory/Comp | | Other | |
|---|---|---|---|---|---|---|---|---|
| | Mean Ranking | *SD* | Mean Ranking | *SD* | Mean Ranking | *SD* | Mean Ranking | *SD* |
| Play scales and technical exercises | 7.14 | 3.92 | 6.29 | 3.80 | 6.67 | 3.50 | 5.91 | 3.86 |
| Harmonize melodies using Roman numerals | 6.32 | 3.25 | 6.79 | 3.32 | 5.67 | 2.87 | 7.39 | 3.43 |
| Harmonize melodies using pop symbols | 6.77 | 3.35 | 6.98 | 3.08 | 4.11 | 2.09 | 6.74 | 3.41 |
| Transpose harmonized melodies | 6.23 | 3.23 | 6.84 | 2.68 | 4.44 | 2.24 | 7.61 | 2.71 |
| Improvise accompaniments | 7.02 | 2.97 | 8.22 | 8.79 | 4.56 | 3.36 | 6.22 | 2.97 |
| Play a piano solo | 9.15 | 3.55 | 6.93 | 3.43 | 8.56 | 2.65 | 7.22 | 3.86 |
| Sight-read an accompaniment | 5.94 | 3.05 | 5.48 | 3.30 | 7.33 | 3.16 | 5.00 | 3.37 |
| Play open scores (vocal or instrumental) | 4.98 | 3.25 | 6.76 | 3.55 | 6.00 | 4.06 | 6.17 | 3.73 |
| Play familiar songs by ear | 6.40 | 2.83 | 5.93 | 3.82 | 3.89 | 2.32 | 3.96 | 3.39 |
| Play chord progressions | 6.35 | 3.12 | 5.67 | 3.02 | 2.67 | 2.60 | 5.48 | 3.30 |
| Accompany a soloist | 6.26 | 3.44 | 6.67 | 3.79 | 9.44 | 3.71 | 6.61 | 3.66 |
| Accompany a group | 5.25 | 3.68 | 7.24 | 4.07 | 10.11 | 2.52 | 6.91 | 3.91 |

*Note*. 1= most important and 12=least important, thus, a lower mean would indicate more important.

## Discussion

For the time being, it appears that group piano will continue to be the primary method of providing music school graduates with the keyboard skills traditionally attributed to musicians/educators/performers/composers/etc. The results of this study indicate that group piano students were generally positive in regard to college piano training as preparation for their future career goals, with 68% rating it above average. The majority also felt that piano skills were important for their future lives as musicians, and rated their own attitude and motivation toward piano study above average. These music majors believed that piano skills are an integral part of their chosen profession and appear resigned to, or accepting of, current instructional practices and expectations.

When ranking the 12 keyboard skills by difficulty, 'playing scales and technical exercises' was ranked as least difficult, followed by' playing chord progressions' and 'playing familiar songs by ear.' The first two, scales and chord progressions, are applications of their theory training and are typically given priority throughout the group piano curriculum and proficiency exams. The skills ranked as most difficult were 'playing open scores,' and 'accompanying a group' and 'accompanying a soloist.' These more practical skills may be more difficult, and they may receive less practice and attention in the curriculum.

The next ranking of the 12 keyboard skills was by "order of importance for you in your future career." 'Sight-reading an accompaniment' was ranked as most important overall, followed closely by 'playing familiar songs by ear,' 'playing open scores,' and 'playing chord progressions.' 'Playing open scores' was also ranked as most difficult and would appear to warrant additional attention in the piano lab and practice room. 'Playing familiar songs by ear' and 'playing chord progressions' were ranked as least difficult. Thus, students may be receiving adequate preparation in those areas. 'Sight-reading accompaniments' is a complex skill involving note and rhythm reading, technical fluency, eye-hand coordination, and the ability to keep going. Breaking down the sight-reading skill into manageable sub-skills would seem to encourage further practice and perhaps improve sight-reading ability and increase confidence. The music students also rated 'sight-reading accompaniments' with the highest instructional priority. They appear to know what they need.

When comparing the skill difficulty level of those students who had studied piano prior to college with those whose first piano instruction was in college class piano, the largest difference was in 'sight-reading an accompaniment.' The more experienced pianists ranked it as less difficult than did the novice pianists. Fluent, proficient sight-reading ability may take more time to develop, giving those with prior experience an advantage. If the sight-reading skill is worthwhile and valuable, it should warrant adequate time for many correct rehearsals of the sub-skills, as well as, opportunities for numerous applications of the performance standard.

It would seem that professionals in various fields of music (performance, classroom teaching, applied lessons, composition, church music, etc.) would have differing needs in regard to piano proficiency, yet many group piano curricula by necessity or convenience are designed as 'one size fits all.' As previous studies have found (Lowder, 1983;

Redfern, 1983; March, 1988; Christensen, 2000), music teachers working in various settings (band, choir, orchestra, general music) require different skills. The present study found that future music educators ranked 'accompanying a group' with higher priority than the other degree emphases, while theory/composition/history majors ranked 'playing chord progressions' and 'improvising accompaniments' higher than the other music majors. The broad base approach of many music degrees may not be providing the specialized skills required by various music occupations. One could also question the amount of time and energy expended on skills (ex. playing a piano solo) that are less valued by working musicians.

Although a college education is concerned with more than career preparation, it seems that prioritizing a crowded curriculum, and requiring fewer skills that can be performed well, might lead to more competent and successful professional musicians. If what we teach cannot be applied outside of the piano lab, we should be hard pressed to justify its inclusion in the curriculum. I suggest that when we cannot do it all, we must narrow our requirements, increase performance expectations, and provide some lasting proficiencies that are meaningful beyond the university walls.

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# Appendix

## Music Student Class Piano Questionnaire

1) What undergraduate degree do you anticipate earning?

_____ Music Education
_____ Music Performance
_____ Music Theory, Composition, History
_____ Other (please specify) _____

2) What is your primary instrument? _____

3) Did you have piano training prior to college?

_____ No

_____ Yes (If yes, how many years of study _____)

4) How much piano have you had in college?

_____ semester(s) _____ quarter(s)

5) How would you rate the effectiveness of your college piano training in preparing you for your future career goals? (1=not effective at all, 5=very effective)

1 2 3 4 5

6) Indicate your opinion of how important piano skills are for people in your field.
(1=not important at all, 5=very important)

1 2 3 4 5

7) How much could technology be a substitute for keyboard skills in your field?
(1=not at all, 5= very much)

1 2 3 4 5

8) Please rate your own attitude and motivation toward piano study.
(1=very negative, 5=very positive)

1 2 3 4 5

The following are keyboard skills typically taught in a university class piano setting.

Please rank them first according to difficulty for you, from least difficult to most difficult (1=least difficult, 12=most difficult).

Then rank them in order of importance for you in your future career, from most important to least important. (1=most important, 12=least important).

| Keyboard Skill | Difficulty for You | Importance for your Future |
|---|---|---|
| Play scales and technical exercises | | |
| Harmonize melodies using Roman Numerals | | |
| Harmonize melodies using pop symbols | | |
| Transpose harmonized melodies | | |
| Improvise accompaniments | | |
| Play a piano solo | | |
| Sight-read an accompaniment | | |
| Play open scores (vocal or instrumental) | | |
| Play familiar songs by ear | | |
| Play chord progressions | | |
| Accompany a soloist | | |
| Accompany a group | | |

How much instruction should undergraduate music students receive in the following keyboard skills? Please check the appropriate box.

| Keyboard Skill | Substantial | Moderate | Little | None |
|---|---|---|---|---|
| Play scales and technical exercises | | | | |
| Harmonize melodies using Roman Numerals | | | | |
| Harmonize melodies using pop symbols | | | | |
| Transpose harmonized melodies | | | | |
| Improvise accompaniments | | | | |
| Play a piano solo | | | | |
| Sight-read an accompaniment | | | | |
| Play open scores (vocal or instrumental) | | | | |
| Play familiar songs by ear | | | | |
| Play chord progressions | | | | |
| Accompany a soloist | | | | |
| Accompany a group | | | | |