

## Rehearsal Pacing of Expert Middle School, High School, and University Choral and Instrumental Conductors

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Most textbooks on conducting and rehearsal techniques include rapid pacing as one of the most important elements of a successful rehearsal (Garretson, 1986; Lamb, 1974); however, these textbooks do not clearly define pacing or explain how to achieve an appropriate rehearsal pace. Pace can be defined as the speed at which one moves from one activity to another in the rehearsal. Other activities that may constitute rehearsal pacing include the personal energy, enthusiasm, musicality, and intensity of the conductor (Kohut & Grant, 1990).

Several studies have linked intensity with pacing. Madsen and Geringer (1989) found a correlation between intensity (teacher on-task) and teacher effectiveness, citing a good sense of timing as a crucial attribute of an effective teacher. Madsen, Standley, and Cassidy (1989) also examined the relationship between music teacher intensity and effectiveness. In their study, 94 music education freshmen, seniors, interns, and graduate students were asked to define intensity. It is interesting to note that none of the freshmen defined intensity as pacing, but one-third of the graduate students did. This may indicate that experienced teachers have a better understanding of the importance of time in rehearsal. Although the students' definitions of pacing varied, the interobserver agreement was high when asked to identify intensity in student teaching videotapes.

Yarbrough (1975) used the words high-magnitude and low-magnitude in comparing teaching styles. One of the attributes of the high-magnitude conductor was a rapid and exciting rehearsal pace (less than one second delay between activities). Students were more attentive and performed better under the high-magnitude conductor, and also preferred working with this type of conductor. Not only do students prefer high-magnitude conductors, "students expressed a preference for the experimental selections that required the fewest time out periods" (Spradling, 1985, p. 123).

Pacing can be used in the organizational structure of a rehearsal. Cox (1989) studied the organizational structures of successful high school choral directors and found that student attitudes toward their choir classes and directors were more positive when fast-paced activities were placed at the beginning and end of a rehearsal or interspersed evenly throughout the rehearsal. Price and Yarbrough published a number of studies concerning "sequential patterns" in rehearsal. The sequential pattern sequence included (1) academic task presentation, (2) student performance, and (3) teacher feedback. Price and Yarbrough found that all three steps

are necessary for successful teaching episodes and that complete patterns are rated highest by musically trained and untrained observers (Price, 1983).

Another indicator of pacing is use of class time, that is, the proportion of the rehearsal spent on each type of activity. Witt (1986), in a study of band and orchestra rehearsals, found that class time was allocated in the following manner: student performance, 43.3%; teaching, 38.9%; and getting ready, 17.8%. Student off-task behavior averaged 3.4% during student performance and 17.8% during teaching episodes. Madsen and Geringer (1983) found that university performance instructors spent a majority of their rehearsals on student performance (62% performance, 30% instruction, 12% getting ready).

Comparisons between experienced, novice, and student teachers' use of rehearsal time were analyzed in a recent study by Goolsby (1996). Results showed that student and novice teachers talked for a larger percentage of time than did experienced teachers. In several related unpublished studies, expert instructors in junior high school, high school, and college displayed higher percentages of performance than teacher talk (Buell, 1990; Carpenter, 1988; Pontius, 1982; Sherrill, 1986).

These studies indicate that students are more attentive under a conductor displaying high intensity or magnitude, and using rehearsal structures that contain specific patterns of fast and slow pacing. Maximizing student performance time will increase attentiveness, and pacing that is too slow can encourage discipline problems.

Previous research concerning the pacing of instruction has focused on broad definitions of general conductor behaviors, including intensity, magnitude, and overall rehearsal structure. One recent study (Duke, Prickett, & Jellison, 1998) identifies use of short episodes of teacher instruction and student activity as an important factor in effective rehearsal pacing. In that study, the teachers who were rated more positively by the observers "were characterized by higher rates of teacher talk and student performance, indicating a more rapid alternation between episodes of teacher and student activity" (p. 274).

The present study examined rehearsal behaviors common to expert conductors at three levels of instruction. The behaviors we focused on, which were demonstrated by all 10 conductors observed, were rapid alternations and equal division of rehearsal time between teacher instruction and group activity, in addition to limiting undirected rehearsal time.

### Method

A pilot study was conducted with university conductors as subjects. Rehearsal behaviors common to these instructors were efficient pacing, frequent modeling, and little or no undirected rehearsal time. The results showed that all instructors had almost equal amounts of instruction and group activity, and that the mean durations of individual episodes of teacher instruction and group activity were very short and approximately equal for all conductors. Out of total rehearsal time, undirected time was less than 10% for all conductors. A high frequency of modeling was observed in all instructors; each modeled an average of more than once per minute of rehearsal time.

The present study expanded the pilot study to include expert instructors at the high school and middle school levels. Initial results showed similarities in pacing among the middle school, high school, and university instructors, but modeling was not frequent at the middle school and high school levels. Therefore, we focused on efficient pacing, which was evident at all three instructional levels.

Two expert conductors, one choral and one instrumental, were selected from the School of Music at The University of Texas at Austin. Four high school conductors and four middle school conductors (evenly divided between choral and instrumental) were selected. One rehearsal by each instructor, at least one hour in length, was videotaped by the observers in order to determine pedagogical similarities between the conductors. As in the pilot study, efficient pacing was a behavior common to all conductors, particularly the alternation of short episodes of teacher instruction and group activity.

Categories selected for observation were defined as follows:

*Rehearsal Pacing.* Instructor balances use of rehearsal time between teacher instruction and group activity, in addition to limiting undirected rehearsal time.

*Teacher Instruction.* Any type of direction or feedback by the teacher that does not occur during student activity. This begins when the teacher starts to speak to the group and ends when the group activity begins. It includes answering student questions, asking questions of students, and nonverbal instruction, such as indicating tempos.

*Group Activity.* Execution by any portion of the ensemble a task as directed by the teacher. This includes singing, playing, clapping or speaking rhythms.

*Undirected Rehearsal.* Any portion of the rehearsal time longer than one second during which no teacher instruction or student activity is occurring.

We selected a 5-minute excerpt from each videotape taken from a section of the rehearsal when concert literature was being rehearsed. Warm-ups, exercises, and announcements were excluded from the observation. Duration of teacher instruction, group activity, and undirected rehearsal time were measured using SCRIBE (Duke & Farra, 1998), a computer program designed for recording and summarizing observational data. Summaries of the data obtained from SCRIBE were analyzed and compared.

## Results

Data acquired from the SCRIBE observation program were compared between choral and instrumental conductors and among instructional levels. Percentages and mean durations of teacher instruction, group activity, and undirected rehearsal were collected and analyzed. Results are presented in Tables 1 and 2.

Table 1

*Percentages of Time Spent in Teacher Instruction, Group Activity, and Undirected Rehearsal*

Activity	Level		
	University	High School	Middle School
Teacher Instruction	56.0	54.7	52.1
Group Activity	40.4	44.6	45.2
Undirected Rehearsal	3.7	0.3	2.4

Results concerning percentage of teacher instruction, group activity, and undirected rehearsal showed that all university, high school, and middle school conductors spent close to half of the observed rehearsal in teacher instruction, although group activity also occupied close to 50% of rehearsal time ( $M = 43.6\%$ ).

Table 2

*Mean Durations (in seconds) of Teacher Instruction and Group Activity*

Rehearsal Type	Observation Category	
	Teacher Instruction	Group Activity
Choral	11.8	11.8
Instrumental	12.3	9.0
University	14.6	10.8
High School	12.0	10.6
Middle School	10.9	10.0

Mean percentages for choral and instrumental conductors were similar; however, instrumental conductors spent a slightly larger percentage (56.93%) of time in instruction than did choral conductors (50.94%). All conductors, regardless of area or instructional level, spent less than 10% of rehearsal in the undirected time category.

Despite the *large percentage* of rehearsal time spent in teacher instruction, all expert conductors demonstrated *short mean durations* of teacher instruction. The average mean duration of teacher instruction was 14.6 seconds for university instructors (ranging from 12.4 to 16.8 seconds), 12.0 seconds for high school instructors (ranging from 9.8 to 13.9 seconds), and 10.9 seconds for middle school instructors (ranging from 8.5 to 14.4 seconds). Instructors teaching younger children displayed shorter mean durations of teacher instruction than did those teaching older children. There was little difference in mean duration of teacher instruction between choral ( $M = 11.8$  seconds) and instrumental ( $M = 12.3$  seconds) instructors.

The mean duration of group activity was short for all conductors, regardless of area or level. The average mean duration of group activity was 10.8 seconds for university instructors (ranging from 7.5 to 14.2 seconds), 10.6 seconds for high school instructors (ranging from 7.9 to 15.2 seconds), and 10.9 seconds for middle school instructors (ranging from 7.0 to 13.6 seconds).

The greatest variation was observed in the mean durations of group activity. Choral conductors demonstrated longer durations of group activity (11.8 seconds) than did instrumental conductors (9.0 seconds). Despite their differences, however, these durations of teacher instruction and group activity are consistently short during selected rehearsal frames in which the conductor is attempting to correct some portion of the ensemble performance.

Interobserver agreement was calculated for percentage and mean duration results obtained from the SCRIBE data. The mean agreement for percentages of teacher instruction (98%), group

activity (97%), and undirected rehearsal (92%) was high for all categories. The mean agreement for mean duration was also high: teacher instruction (95%), group activity (95%), and undirected rehearsal (92%).

### Discussion

Results from this study show that, although the conductors spent close to half of the rehearsal time talking, they alternated quickly between teacher instruction and group activity, especially during the error-correction portion of the rehearsal. Short mean durations of teacher instruction and group activity appear to be an important factor in effective rehearsal pacing.

This study also shows a hierarchical relationship between the three instructional levels. Episodes of teacher instruction and group activity were shortest at the middle school level and longest at the university level. This relationship may be due to the shorter attention spans of the younger students and the level of sophistication of the errors being corrected.

The choral conductors' teacher instruction and group activity means (11.8 and 11.8 seconds, respectively) were more similar than were those of the instrumental conductors (12.3 and 9.0 seconds, respectively). In this study, most of the choral ensembles had been rehearsing the music longer at the time of taping than had the instrumental ensembles; perhaps errors were corrected more quickly and needed less explanation.

All of the expert conductors observed in this study demonstrated efficient and quick pacing, as evidenced by the mean durations of teacher instruction and group performance in all of their disparate teaching styles. This behavior has not been studied extensively in the past, probably due to the difficulty of using duration recording in such short intervals. Future studies might further isolate the error-correction portions of rehearsals and analyze those excerpts more extensively.

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