

A Comparison of Instructional Strategies Used by Experienced Band and Orchestra Teachers When Teaching a First-Year Class an Unfamiliar Music Excerpt

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Abstract:

The purpose of the study was to compare the instructional strategies used by experienced band and orchestra teachers when teaching a first-year class an unfamiliar music excerpt. Twelve teacher behaviors were identified and operationally defined: echoing technique, question and answer, verbal instruction, co-verbal instruction, modeling with instrument, modeling with instrument during student performance, modeling without instrument, modeling without instrument during student performance, conducting, student performance, pedagogical touch, and classroom management. Significant differences were found for nine out of the twelve behaviors. In general, band teachers used verbal instruction, conducting, question and answer techniques, and student performance with greater frequency than orchestra teachers, while orchestra teachers used echoing technique, co-verbal instruction, modeling, modeling with instrument during student performance, and pedagogical touch with greater frequency. No significant difference was observed between the two groups for classroom management, modeling without an instrument, and modeling without an instrument during student performance.

Keywords: music education | instructional strategies

Article:

Introduction

The first year of instrumental music instruction in a group setting poses a number of demands that require the instrumental educator to have a well-defined plan or curriculum. In heterogeneously grouped beginning instrumental classes, the number of different instruments may range from four separate instruments to as many as 12 or more. The acquisition of skills fundamental to each of the instruments requires the educator to design lessons that include specific instruction for each instrument, while excellent pacing and classroom management

skills are essential for effective delivery. Little research has investigated the strategies used by instrumental teachers to accommodate the diverse needs of a first-year instrumental classroom. Furthermore, the majority of research has investigated the teaching effectiveness of band teachers with little attention given to effective strategies for orchestra teachers. The purpose of this study was to investigate and compare the instructional strategies used by experienced orchestra and band teachers when teaching their first-year class an unfamiliar music excerpt.

Recent research in music education has shed light on a number of effective teacher traits through comparing novice teachers to experienced teachers (Goolsby, 1996, 1997, 1999; Moore & Bonney, 1987; Wagner & Strul, 1979). Moore and Bonney (1987) compared the use of time between student and experienced teachers in elementary general music classrooms and found that student teachers spent more time on each individual activity than did experienced teachers. Experienced educators gave more approval to the students than did the student teachers, and students were more on task for the experienced teachers than for the student teachers. Wagner and Strul (1979) compared experienced elementary music teachers, student teachers, and pre-service teachers and found that experienced teachers spent less time giving directions than did less experienced teachers.

Goolsby (1996, 1997, 1999) completed three investigations that compared novice and experienced high school and middle school band teachers. Results of these studies found that student teachers talked more and had students perform less than did the experienced teachers. Experienced teachers spent more than half of the time in performance, used more nonverbal modeling, and were more efficient in getting the ensemble on task. The experienced teachers spent more than twice as much time in non-verbal demonstration and modeling than did the younger teachers.

Comparisons of the effectiveness of verbal and non-verbal instruction have revealed that modeling is more effective in developing ear to hand skills and kinesthetic responses, but not general music discrimination skills of middle school band students (Dickey, 1991). Furthermore, a strong relationship was found between teachers' modeling abilities, time spent modeling, and student performance levels (Sang, 1987). Sang (1998) investigated the effects of modeling, visual communication, and verbal communication on the performance of high school bands and found that when visual communication was used alone, the instruction was significantly less likely to improve ensemble performance than when teachers used verbal instruction combined with modeling and visual instruction.

Dickey (1992) reviewed research that had investigated various types of modeling in music classes and concluded that modeling was an effective means of communication in music classrooms and that modeling is more effective than verbal descriptions. Furthermore, in order for teachers to be effective when modeling, they must have the necessary skills to model both correctly and incorrectly.

Despite evidence that modeling is an effective instructional tool, instrumental music teachers have been found to use primarily verbal instruction to communicate to their ensemble (Carpenter, 1988; Goolsby, 1996, 1999; Pontious, 1982). Pontious found that instrumental conductors spent 42% of their rehearsal time giving verbal instructions. Goolsby (1999) found that experienced band teachers spent 32% of time in verbal instruction compared to 5% of the time in non-verbal instruction and demonstrations.

Researchers have investigated the effectiveness of instrumental educators primarily in the context of band rehearsals. Fewer researchers have investigated the teacher traits of effective orchestra teachers. Younger (1998) completed an observational analysis of intermediate level

band and orchestra with a focus on teacher effectiveness and found that more effective lesson excerpts included more small group performance, little or no time in question and answer sessions, higher rates of correct responses, and increased on-task behavior than did less effective lesson excerpts. More effective directors maintained the tempo, offered more feedback and repeated tasks. Allard (1992) studied the effectiveness of specialists and non-specialists teaching elementary beginning string classes. Allard focused on time use, effect on student attentiveness, and performance quality and found that students of specialists demonstrated higher performance quality.

Many teacher education programs approach teaching instrumental music as one topic that has common techniques and skills for both string and wind ensembles. However, little empirical research exists to support this common practice. Few studies have investigated possible differences between orchestra and band teachers (Vallo, 1991; Witt, 1986). It is possible that some of the teacher traits recognized as characteristics of effective teaching are specific to the type of ensemble that is being rehearsed. For instance, Vallo (1991) compared the priorities of orchestra and band conductors and found that orchestra directors rated musical attributes higher than band directors, while band directors rated pedagogical attributes as higher than musical attributes. Differences in priorities may affect the objectives and strategies utilized by band and orchestra teachers.

Witt (1986) investigated secondary instrumental rehearsals and found 43.4% of class time was spent in performance, instruction accounted for 38.9% and getting ready 17.8%. Orchestra students demonstrated significantly higher levels of off-task behavior during both performance and nonperformance than band students and took longer to get ready because almost twice as much time was spent tuning. During non-performance, orchestra students were off-task 24.90% of the time, while band students were off-task only 10.76% of the time. In general, orchestra teachers executed teaching episodes that were longer in duration than those taught by the band teachers.

A number of contrasts exist between instruction with an orchestra compared to a band, including the number of instruments that may be present, the mechanics of the different instruments, and possible differences in the education objectives. Previous research has found differences between the priorities (Vallo, 1991) and time usage of band compared to orchestra teachers (Witt, 1986). Many teacher education programs have methods courses designed to develop instrumental teacher skills, however little research has investigated the similarities or differences between rehearsal strategies used by experienced band compared to orchestra teachers. The purpose of the present study was to investigate and compare the instructional strategies used by experienced band and orchestra teachers during first-year instrumental music classes when teaching an unfamiliar music excerpt. Additionally, two specific questions were examined: (a) Is there a difference in the amount of modeling used by the teachers in orchestra compared to band?; and (b) How much time is devoted to tuning the instruments in a first-year orchestra compared to a first-year band class?

Method

Participants

Participants in this study (N = 40) included 20 experienced band teachers and 20 experienced orchestra teachers. All were teaching fifth- and sixth-grade beginning instrumentalists enrolled

in their first year of instruction. Participants were selected based on the following criteria: (a) the teacher was currently teaching a first-year instrumental class of fifth- or sixth-grade students in the second semester of instruction, (b) had a minimum of three years teaching experience, and (c) either had hosted a pre-service intern or student teacher from a university with an accredited music education program or were highly recommended by public school colleagues. Teaching experience of the participants ranged from three to 44 years of experience, and 38 of the 40 teachers had mentored pre-service interns. All participants were teaching in the Southeastern United States when data were collected.

Description of the Classes

The instrumental classes of the teachers who agreed to participate in this study ranged in size from seven to 65 students. The length of class period varied by school, ranged from 30 minutes to 75 minutes in length, and met two to five times per week. All orchestra classes were grouped heterogeneously; 16 of the orchestra classes included violins, violas, cellos, and double basses, the other four orchestra classes included violin, viola, and cello students, but not double bass. The band classes were also grouped heterogeneously; 14 of the band classes included woodwind, brass, and percussion students, four contained only woodwind instruments, and two contained only brass instruments.

Recruitment of Participants

Potential teacher participants were identified, contacted via email, and provided with a description of the study and the eligibility requirements. Teachers who responded and met the criteria for inclusion in the study were invited to participate. Eligible participants were informed that the purpose of the study was to investigate and compare the instructional strategies used by experienced band and orchestra teachers when teaching an unfamiliar music excerpt to their first-year class. The following instructions were given:

If you choose to participate, you will be asked to teach a new line of music to your first-year instrumental music class. I will videotape your lesson so that I can later analyze the strategies that you used to teach your class. You should do whatever feels most natural to you in the lesson. Only you will be visible in the video recording. No students will be included on the recording. I will be present during the lesson to operate the recording device to ensure that only you are in the recording and that the lesson is taped in its entirety.

Procedure

Teachers who agreed to participate in the study were given further instructions and scheduled for an observation during the second semester of his or her first-year instrumental class. For comparison purposes, each teacher was instructed to select a brief, unfamiliar music excerpt to teach on the day of the observation that the class had not previously rehearsed. Teachers were responsible for selecting the lesson material to ensure that the new line of music would be at the appropriate difficulty level and could be taught in 15 to 20 minutes. The lesson materials were typically excerpts from beginning instrumental method books and varied from 8 to 32 measures

in length. Unfamiliar music was used to control for the possibility that teacher techniques and musical objectives may change as a performance approaches and to require all of the teachers to address music reading in addition to technical issues. The teachers were encouraged to begin the rehearsal using their typical routine, including the normal tuning process, warm-up, or review of previous skills and information. The teacher was asked to prompt the researcher that instruction on the new music excerpt was about to commence by saying, "now we will learn something new." The researcher later used this prompt during data analysis to locate the proper point in the lesson for formal observation.

The researcher recorded all lessons using a Canon Digital Video Camcorder ZR800. Recordings of the lesson were initiated when the class bell rang so that tuning procedures would be included. Special care was taken to videotape only the teacher. In cases when the teacher moved about the classroom, the camera zoomed in to follow the teacher, thereby reducing the possibility of recording a student's face.

Data Analysis

Several videos were viewed, and the following 12 teacher behaviors were identified as occurring frequently: echoing technique, question and answer, verbal instruction, co-verbal instruction, modeling with instrument, modeling with instrument during student performance, modeling without instrument, modeling without instrument during student performance, conducting, student performance, pedagogical touch, and classroom management (see Figure 1).

The researcher viewed the video from each lesson and recorded the time it took to tune each group for later comparison. The videotape was then forwarded to the teacher prompt, "now we will learn something new." During the teaching of the new line of music, the frequency of occurrences of each teacher behavior was recorded using an observation form adapted from procedures developed by Madsen and Madsen (1998). The frequency of the 12 identified teacher behaviors was recorded from this point until the portion of the rehearsal dedicated to the unfamiliar music excerpt was complete. Observations were coded with the aid of an audio headset that indicated observe intervals (10 seconds) and record intervals (5 seconds). The duration of instructional time used by each participant to teach the unfamiliar music excerpt was measured and ranged from 10 minutes to 21 minutes 30 seconds.

E (Echoing Technique): Teacher performed a pattern related to the new song and the students immediately performed that pattern with no break for verbal instruction.

CV (Co-verbal Instruction): Teacher gave verbal instruction while modeling or during student performance.

VI (Verbal Instruction): Teacher gave verbal instructions to the class.

SP (Student Performance): Included any performance of the new song: students performed the melody or portions of the melody on the instruments, clapped or said the rhythm, sang, shadowed bowed/tizzled and fingered, performed alone, performed as a section, or performed as an entire class.

QA (Question and Answer): Teachers asked the students questions regarding the song or performance of the song.

MI (Modeling With Instrument): the teacher modeled for the students using an instrument/

MISP (Modeling with Instrument During Student Performance): the teacher performed on an instrument during student performance.

MWI (Modeling Without Instrument): included any teacher demonstrations without an instrument such as singing, speaking the rhythm, or modeling the articulation verbally.

MWISP (Modeling Without Instrument During Student Performance): the teacher sang or spoke the rhythm or articulation as the students performed.

C (Conducting): the teacher conducted the class.

PT (Pedagogical Touch): the teacher physically assisted individual students.

CM (Classroom Management): instances where instruction paused to correct student behavior.

Figure 1. Operational Definitions for the Twelve Teacher Behaviors

Reliability

Three independent observers were trained to code the video recordings of the lessons. Twenty-five percent (10 lessons) were coded by the independent observers and compared to the researcher's observations. Reliability coefficients were calculated through interval-by-interval agreement ($\frac{\text{total agreements}}{\text{total agreements} + \text{total disagreements}}$). Mean percentage agreement was .93 and ranged from .89 to .99.

Results

The mean instructional time used to teach the unfamiliar music excerpt was calculated for the orchestra and band teachers and results were similar between the two groups. The band teachers' mean instructional time was 17 minutes 29 seconds and the orchestra teachers' mean instructional time to teach the new song was 17 minutes 5 seconds. The amount of time spent tuning each group varied considerably depending on the size of the group and the strategies used by the teacher. Seventeen orchestra teachers tuned their group at the beginning of the class. Mean duration of tuning for the orchestra classes was 4 minutes 53 seconds and ranged from 1 minute 30 seconds to 11 minutes 33 seconds. Only one band was tuned at the beginning of class or during the rehearsal. This process took 2 minutes and 23 seconds.

This process took 2 minutes and 23 seconds. In order to compare the teaching techniques of the orchestra and band teachers, the total number of occurrences for each of the 12 categories was totaled (see Table 1). All statistical analyses were computed using Chi Square with an adjusted alpha level of $p < .004$ (.05 divided by 12) to correct for multiple testing between the two groups. Significant differences were found between the orchestra and band teachers for 9 of the 12 categories (echoing technique, co-verbal instruction, verbal instruction, student performance, modeling with instrument, question and answer, student performance modeling with instrument, pedagogical touch, and conducting). The occurrences of classroom management issues, modeling without an instrument, and modeling without an instrument during student performance, were not significantly different between the two groups.

A significant difference was found for both echoing technique ($\chi^2(1) = 33.12, p < .001$) and modeling with instrument ($\chi^2(1) = 19.08, p < .001$). Orchestra teachers modeled with an instrument 91 times during instruction and modeled 52 times using echoing techniques, compared to their band colleagues who demonstrated 40 instances of modeling with an instrument and 20 instances of echoing. Furthermore, orchestra teachers performed with the

class with higher frequency (168) than did their band counterparts (37; $X^2(1, N = 205) = 82.44, p < .001$). Overall, orchestra teachers used an instrument with greater frequency as an instructional tool (311) than did the band teachers (97).

Results of the chi-square analyses revealed a significant difference for the number of times that conducting was used between orchestra and band teachers ($F(1, N = 463) = 91.66, p < .001$). Band teachers were observed conducting 335 times, while orchestra teachers conducted 128 times. Eighteen of the 20 band directors employed conducting during the lesson compared to 10 orchestra directors who conducted while teaching the unfamiliar music excerpt (see Table 1).

A comparison of the frequency of verbal instruction to the students revealed significant differences for verbal instruction ($X^2(1, N = 1410) = 53.64, p < .001$), co-verbal instruction ($X^2(1, N = 513) = 41.56, p < .001$), and question and answer sessions ($X^2(1, N = 465) = 11.14, p < .001$) between the two groups. Orchestra directors delivered more co-verbal instruction (330) than did the band teachers (183). Band directors gave instruction verbally (843) with greater frequency than did the orchestra teachers (567) and spent more time in question and answer sessions (269 and 196, respectively).

The frequency of student performance was significantly higher in the band classes than in the orchestra classes ($X^2(1, N = 935) = 20.36, p < .001$). However, this difference can be attributed to the frequency with which orchestra teachers performed with the students and utilized echoing technique. The total amount of time that students were involved in performance activities, with and without the teacher modeling, was similar between the two groups. Orchestra students were observed in performance activities 696 times and band students were observed in performance activities 680 times.

Orchestra teachers utilized pedagogical touch with significantly greater frequency than did the band teachers ($X^2(1, N = 66) = 12.74, p < .001$). However, it is important to note that only 15 of the teachers (Orchestra = 8, Band = 7) employed pedagogical touch as a teaching strategy (see Table 1).

Discussion

The results of this study showed that experienced orchestra and band teachers utilized different strategies when teaching first-year instrumentalists a unfamiliar music excerpt. Significant differences were found between orchestra and band teachers in regard to the frequency with which the following techniques were employed: echoing technique, co-verbal instruction, verbal instruction, student performance, modeling with instrument, question and answer, student performance modeling with instrument, pedagogical touch, and conducting. There was also a difference in the amount of time that was spent tuning the ensembles. Seventeen of the orchestra teachers tuned the orchestra at the beginning of class, while only one band teacher chose to tune her band. Mean duration of tuning for the orchestra classes was 4 minutes 53 seconds and ranged from 1 minute 30 seconds to 11 minutes 33 seconds.

The difference in the amount of time that was spent tuning the ensembles seems to be an important difference between the two classroom settings. It seems difficult to begin an orchestra rehearsal without tuning, as string instruments may not be close to the correct concert pitch while a beginning band can begin playing immediately. The majority of orchestra teachers tuned each student individually at the beginning of the class. Only one orchestra teacher utilized a process where the students were involved in tuning their own instruments through the use of electronic tuners. The amount of time that was spent tuning was largely dependent on the number of

students in the class.

Table 1. Frequency Data for the Twelve Teacher Behaviors

Band	E	CV	VI	QA	SP	MISP	MI	MWISP	MWI	C	PT	CM
S1	0	5	21	11	7	4	2	5	0	3	0	3
S2	0	9	55	17	26	0	0	8	12	24	0	24
S3	2	9	33	6	25	11	5	2	1	0	0	0
S4	0	8	43	9	24	0	0	6	0	16	5	5
S5	0	2	44	20	34	0	10	0	1	27	0	1
S6	0	2	42	13	14	0	0	0	1	11	0	0
S7	0	14	19	13	17	0	0	2	0	12	0	5
S8	0	18	39	15	31	0	6	0	4	26	0	2
S9	0	17	48	17	24	8	3	1	13	19	0	7
S10	0	17	37	16	25	0	0	7	26	24	0	13
S11	0	2	55	21	68	0	0	1	10	16	3	4
S12	17	1	29	14	8	2	0	0	0	0	0	9
S13	0	11	61	24	36	0	4	8	18	21	1	13
S14	0	11	34	14	28	2	3	9	7	20	0	2
S15	1	8	56	5	42	0	0	20	8	31	1	13
S16	0	10	51	8	9	10	10	5	5	7	1	5
S17	0	16	40	12	29	0	2	2	3	5	0	1
S18	0	15	38	1	32	0	1	0	4	28	0	15
S19	0	2	44	12	20	0	3	7	6	17	3	2
S20	0	6	54	21	38	0	0	3	2	28	4	8
Total	20	183	843	269	537	37	40	86	121	335	18	132

Band	E	CV	VI	QA	SP	MISP	MI	MWISP	MWI	C	PT	CM
S1	12	6	46	17	15	9	5	1	8	0	5	16
S2	0	12	27	6	11	0	2	16	1	0	19	0
S3	0	9	26	7	19	0	4	0	2	8	10	10
S4	8	32	30	9	13	27	9	0	1	0	3	4
S5	6	22	17	4	8	5	4	11	1	0	1	0
S6	0	17	24	16	18	0	0	9	5	25	0	0
S7	0	38	41	16	20	25	16	23	3	1	0	2
S8	10	14	17	4	3	9	4	0	0	0	0	17
S9	5	19	21	14	2	16	4	0	2	0	0	1
S10	0	22	34	5	39	0	0	2	2	16	2	7
S11	9	11	12	9	2	14	7	2	0	0	0	24
S12	0	29	36	3	39	13	7	2	25	13	0	4
S13	0	9	30	12	31	0	0	2	10	21	0	13
S14	0	31	40	2	39	8	4	0	21	0	0	5
S15	0	14	40	3	10	21	8	3	0	0	3	3
S16	0	22	29	13	29	3	2	2	2	16	5	3
S17	0	2	36	20	24	16	8	0	3	0	0	0
S18	0	4	19	15	29	0	0	0	0	4	0	10
S19	0	7	16	10	16	0	0	5	3	14	0	3
S20	2	10	26	11	31	2	7	0	3	10	0	16
Total	52	330	567	196	398	168	91	78	93	128	48	138

Note. Bold totals indicate significant differences at $p < .004$

Discussion

Further research should investigate effective tuning strategies for beginning orchestras to reduce the amount of instructional time spent tuning. Teachers might consider employing silent activities for students during the tuning process such as written work, shadow bowing, and improvisation of rhythms on open strings so that instruction and tuning can take place simultaneously. It would be interesting to investigate when band directors initiate the tuning process with their beginning ensembles to understand how long this difference exists between the band and orchestra classrooms. Previous research has found that high school and middle school orchestras spend significantly more time tuning than bands (Witt, 1986). However, it was interesting to note that not only did beginning orchestras spend more time tuning than the beginning bands in this study, the beginning bands did not typically engage in any tuning process.

Overall, orchestra teachers modeled with their instrument, utilized echo techniques, and performed along with the students with greater frequency than did band teachers. Orchestra teachers demonstrated a total of 311 times with an instrument compared to the band teachers who demonstrated 97 times. Furthermore, nine of the band teachers chose not to model on an instrument during the rehearsal while five orchestra teachers elected not to model using an instrument.

Proper set-up has been identified as one of the most important goals of a first-year string class (Allen, 2003; Hamann & Gillespie, 2004; Kotchenruther, 1999), while tone production or characteristic tone has been the main focus in beginning wind instruction (Dietz, 1998; Whitener, 1997). The characteristics of proper set-up on a string instrument, such as the correct bow hold and left hand position, are easily seen when a teacher models on an instrument for the students. Conversely, the proper embouchure, tongue placement, correct articulations, and air support needed to create a characteristic tone on a wind instrument, are not easily seen. This fundamental difference between the main objectives in first-year instrumental music instruction may partially explain the difference in the amount of modeling that occurs in beginning orchestra classes compared to beginning band classes.

Further research might investigate additional reasons for the difference in modeling between orchestra and band teachers and whether this difference is specific only to first-year instruction. It seems valuable to model for students in all settings, but it may be that the orchestra teachers chose to model with greater frequency because there are only four string instruments in the instructional setting and the skills are relatively homogenous. Modeling on one string instrument provides specific instruction to many students simultaneously, whereas in a band setting the teacher must choose an instrument on which to model, and this type of demonstration has meaning for fewer students. It is also possible that the orchestra teachers modeled because they had role models who demonstrated on their instrument, while the band directors had teachers who did not model.

A difference was also found between band and orchestra teachers for the number of times the teacher was observed conducting. Band teachers conducted 335 times, while orchestra teachers conducted 128 times. Eighteen of the 20 band directors conducted while only ten of the orchestra directors conducted. It is interesting that the band directors conducted with greater frequency while the orchestra teachers spent more time performing with their students. In orchestral settings, much of the information needed to perform in the correct part of the bow is found by watching the principal player or concertmaster as well as the conductor. It seems possible that orchestra teachers chose to perform with their students to teach them how to use the bow correctly and how to watch for this information. This same type of skill is not necessary in a

wind ensemble; therefore, more time is spent teaching students to follow the conductor.

Band directors stopped performance to give verbal instruction (843) with greater frequency than did the orchestra teachers (567) and spent more time in question and answer sessions (269 and 196, respectively), while the orchestra teachers were observed using co-verbal instruction with significantly greater frequency than the band directors. This finding is consistent with previous research that verbal instruction is the most common method for communicating in band rehearsals (Carpenter, 1988; Goolsby, 1996, 1999; Pontio, 1982).

Orchestra teachers delivered co-verbal instruction 330 times compared to the band teachers' 183 occurrences. The difference between the use of verbal instruction and co-verbal instruction seems important when considering future teacher training. Co-verbal instruction appeared to be a popular technique used by orchestra teachers in this study and may not function as well in a band setting due to the loudness levels of the ensemble. It may be necessary for band directors to stop student performance in order to address the ensemble and be heard by the students. The band directors who utilized co-verbal instruction tended to use it while students were "ghost fingering" or while smaller sections were playing. Orchestra teachers were able to speak over their class with greater frequency because the loudness of the ensemble was softer. Furthermore, the orchestra teachers had the ability to demonstrate on a string instrument and speak to the ensemble simultaneously, an instructional strategy that is specific to strings, percussion, and piano, and cannot be used while demonstrating on a wind instrument.

The results of this study indicated that the strategies used by band and orchestra teachers in a first-year instrumental class are different. Many teachers are required to teach out of their area of specialty and music teacher education programs are expected to train future music teachers in all concentrations of music education. An awareness of the strategies used by effective band and orchestra teachers during the first year of instruction seems helpful in designing teacher preparation programs. Additional research is needed to investigate whether the differences found in this study exist at all levels of instrumental music education or only in the first year of instruction.

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