The Effects of Rehearsal Sequence on the Musical Expressivity of Young Voices

Craig Hurley[1] and Rebecca L. Atkins[2]

Abstract

The purpose of this study was to investigate whether the sequence in which a choir learns the elements of a song (e.g., rhythm, pitch, text, expression) influence the musical expression (e.g., articulation, dynamics) of their performance. We were also curious if learning sequence would affect expressive retention over time. Participants included four intact sixth-grade choir classes from two large middle schools located in the southeast United States. Participants learned two different songs, one with an infused-expression sequence and one with a post-expression sequence. During the infused-expression sequence, participants learned expressive elements alongside rhythm, pitch, and text. During the post-expression sequence, participants learned the rhythm, pitch, and text first, followed by expressive elements. Each participant recorded a performance of each song immediately after the initial learning sequence and again one week later. Results showed that when students learned a song using an infused-expression sequence they performed more expressively both on the initial and retention recording than students who learned the same song using a post-expression sequence. Implications for the use and benefits of infused-expression sequencing as well as future research are discussed.

Keywords: children's choir, song-learning sequence, expressive singing

[1] Ford Elementary, Cobb County School System, Spivey Hall Children's Choir, Clayton State University
[2] Hugh Hodgson School of Music, University of Georgia

Corresponding author:
Craig Hurley, Ford Elementary School, 1345 Mars Hill Rd NW, Acworth, GA 30101.
Email: Craig Hurley Craig.Hurley@cobbk12.org

The Effects of Rehearsal Sequence on the Musical Expressivity of Young Voices

Musical expression is the art of playing or singing music with a personal response (Scruton, 1982). Unlike rhythm or pitch, expression is open to performer interpretation. Two choirs could theoretically sing the same song with effective musical expression but in different ways. Often composers or editors include expression markings to aid performers in their expressive interpretation. Practically speaking, performing with musical expression means making appropriate use of dynamics, phrasing, timbre, and articulations to help make the music come to life (Scruton, 1982). Expressivity creates auditory variations in a melody. Changes in articulation, dynamics, and tempo influence the expressivity of a piece of music (Juslin & Laukka, 2003).

Pedagogy on Teaching Expression

Various authors recommended different sequences when introducing a song to a choir. Sequences can focus on rhythm and pitch (Robinson & Winold, 1976), developing part-singing (Collins,1993), music literacy skills (Goetze et al., 2011), or creating a comprehensive picture of the song (Leck & Jordan, 2009; Phillips, 2016). There were variations between authors about when to introduce expressive elements in the song-learning sequence. Most often authors recommended teachers introduce expressive elements after rhythm, pitch, and text were learned (Collins, 1993; Goetze et al., 2011; Robinson & Winold, 1976).

Conversely, Jaques-Dalcroze (1967) believed students should learn rhythm, pitch, and expressive elements concurrently. Leck and Jordan (2009) recommend using Jaques-Dalcroze eurhythmics to introduce expressive and form elements to the singer prior to singing. Similarly, Robert Shaw would teach expressive elements early in the learning sequence by pairing each element of a song (rhythm, pitch, text, and expressivity) in various combinations during a rehearsal to create a precise and expressive performance. Jaques-Dalcroze and Shaw treated all four elements of a song as equal contributors to the overall performance (Yarbrough, 2002).

Watkins and Scott (2012) also recommended introducing expressive elements early in the learning process. "Expressive musicianship is fundamental to all students' development and should not be delayed until technique is in place" (p. 104). Performing with expression early creates a need for technique to be addressed, and improving technique helps increase the available expression vocabulary. Furthermore, expression motivates students to improve their vocal technique and/or musicianship skills. By including expressive elements early in the learning sequence, students will hopefully recognize that expressiveness is an integral part of the music and never perform the song void of expression.

Research on Expression

Researchers have studied several core areas of expression, including students' perceptions, influence of training, and the effectiveness of different instructional strategies. Students re-

ported enjoying learning expressive skills and felt they were essential to a quality performance (Lindström et al., 2003). Students were able to improve their musical expressiveness skills with instruction (Ebie, 2004; Marchand, 1975) and the longer a student participated in musical ensembles and private music lessons, the more likely they were to be expressive when performing (Broomhead, 2001).

Expressive performance pedagogical strategies (e.g., modeling, verbal instructions, imagery, conducting gesture, etc.) have also been empirically tested. Woody (2006) found aural modeling, verbal instruction, and imagery/metaphor were all successful teaching strategies, but each had limitations for college pianists. Aural modeling was consistently effective at creating an imitation of the original model but did not inspire a student's own expressivity or interpretation of a melody. Verbal instruction showed consistency in improving expressive performance from the baseline performance to the final performance but required significantly more practice than the other two strategies, making it less efficient. The imagery and metaphor strategy also produced change in performance but was not always performed in the way the instructor desired. Skadsem (1997) found verbal instructions elicited the most different dynamic response compared to written instructions, conducting gesture, or neighboring singers in high school and college singers.

Broomhead (2006) interviewed teachers and observed rehearsals of high school choirs and found expressive teaching techniques appeared to be spontaneous and did not follow a prescribed sequence. Instruction techniques fell into seven categories: (a) student-initiated input, (b) teacher inquiry, (c) referential (e.g., imagery), (d) demonstration, (e) teacher feedback, (f) detailing, and (g) conducting. Based on Broomhead's findings, expressive teaching strategies appeared to be more instinctive and spontaneous and less prescribed and sequential.

Only a few studies have focused on the performance of musical expression in younger students (Broomhead, 2001, 2006; Broomhead et al., 2012; Woody, 1999). Others have included college-aged participants (Ebie, 2004; Lindström et al., 2003; Skadsem, 1997; Van Zijl & Luck, 2013; Van Zijl, & Sloboda, 2011; Van Zijl et al., 2014; Woody, 2000, 2006) and focused on instrumentalists (Gabrielsson & Juslin, 1996; Meissner, 2017; Van Zijl & Luck, 2013; Van Zijl, & Sloboda, 2011; Van Zijl et al., 2014; Woody, 1999, 2006) rather than vocalists (Broomhead, 2001, 2006; Broomhead et al., 2012; Ebie, 2004; Skadsem, 1997). Furthermore, most studies tested expressive performance on previously learned song material (Broomhead et al., 2012; Skadsem, 1997; Woody, 2006) where participants learned notes and rhythms before learning expression.

Only one study to date has explored the timing/sequencing of introducing expressive elements in song acquisition in young singers (Hurley, 2019). Participants learned songs using an infused-expression sequence (learning the song with expression from the beginning) and post-expression sequence (adding expression after rhythm, text, and pitch). Both sequences were effective at creating an expressive performance. When sequences included directive statements about expression, the infused-expression sequence group scored higher than the

post-expressive group ($p < .05$). However, there were only a small number of participants ($N = 56$) and they were all my own students.

The purpose of this current study was to investigate whether the sequence in which a choir learned the elements of a song (e.g., rhythm, pitch, text, expression) influenced the musical expression (e.g., articulation, dynamics) of their performance on an initial and retention assessment. We wanted to replicate (with some variations) the previous study with a larger population of students from different music teachers' classrooms.

Method

We created two different learning sequences (infused-expression and post-expression) to teach the songs *Now All the Woods Are Waking* by Max Exner and *Man's Life's a Vapor* by an Unknown composer. We chose the songs for their length (6-8 measures), their appropriateness for beginning choirs, and for the expressive potential of the text based on our 34 years of combined experience teaching young voices. We added expressive markings based on the text of each piece and balanced the number of opportunities for staccato, legato, forte, and piano in each song. See Figure 1 for specific expressive markings.

Figure 1
Song Examples

Stimulus Creation

To create the learning sequences, we recorded a high school aged treble choir (age in years *M* = 15.38, *SD* = 1.50; years of choir experience *M* = 4.44, *SD* = 1.55; grade *M* = 10.36, *SD* = 1.53) performing *Now All the Woods Are Waking* and *Man's Life's a Vapor* using a Zoom H1 Digital Recorder. We made recordings of the choir chanting and singing both songs with and without expression. We used these recordings as the vocal model for the prerecorded learning sequences. Based on the findings of several studies, we included vocal modeling (Mann, 2008; Woody, 2006) and directive questions (Dunn, 1997; Stamer, 1999) in both sequences.

We created two learning sequences (infused-expression, post-expression) for both songs by combining the choral model with spoken clips of directions (e.g., "Echo sing phrase one with expression") and directive questions about expression (e.g., "Can you make the first part of the phrase separated and second part of the phrase smooth like the model?") using the free software Audacity (Audacity, 2018). Both learning sequences included the same directions, three directive questions about expression, and the same number of models and repetitions. Both sequences were approximately six minutes in length.

Teaching Sequences

We based the post-expression sequence on the common sequence choral directors use to teach a song outlined in several textbooks (Collins 1993; Phillips, 2004; Robinson & Winold, 1976). Because teachers used various sight-reading systems and choirs may be at different music literacy skill levels, melodies were taught by rote with text (while students looked at the musical notation) rather than by using rhythm syllables and solfège. During the post-expression sequence, participants were taught the rhythm and pitches before learning the expressive elements of the song. First, the participants heard the model choir sing the melody with expression. Next, the participants heard the model choir speak the rhythm of each phrase on text with no expression. The participants echoed each phrase twice before moving to the next phrase. Then the participants heard the model choir sing each phrase of the melody on text without musical expression and echoed two times. Once the participants had learned the entire song, they heard instructions about singing each phrase expressively (i.e., "Notice that phrase one begins short and separated and ends nice and smooth. The whole phrase is quiet. Echo after me"). Participants echoed the model choir singing each phrase of the song with expression. Between repetitions for each phrase, the participants heard directive questions about the expression (i.e., "Remember to start the song quietly and make a noticeable difference between the separate and smooth sections"). The participants then listened to the model choir sing the same phrase with expression again and echoed. Once all phrases were completed in the same manner, the participants were directed to "sing the whole song like the model" one more time. To watch and hear the post-expression learning sequences, follow the YouTube links: *Man's Life's a Vapor*

– post-expression - https://youtu.be/YeFoZDPyU-M, *Now All the Woods Are Waking* – post-expression – https://youtu.be/wwe3Jr92c1Q.

We based the infused-expression sequence on the rehearsal techniques of Robert Shaw as outlined by Yarbrough (2002). First, the participants heard an expressive model of the entire melody on text. Before learning each phrase on text, participants heard instructions about expressive quality of the phrase (i.e., "Phrase 3 starts quiet but changes to loud at the end. It also starts short and separated and ends with three strong accents. Echo after me"). Next, the participants heard the model choir speak the rhythm of each phrase on text with expression. The participants echoed two times until all phrases were completed. Then, participants echoed the model choir singing each phrase with expression, followed by a directive question (i.e., "On the third line make sure 'down he, down he, down he, down he' [sung] is short and quiet and then 'down he goes' [sung] is strong and accented"). The participants listened to that phrase again with expression and echoed. Once all phrases were learned, the participants were directed to "sing the whole song like the model" two times. To watch and hear the infused-expression learning sequences, follow the YouTube links: *Man's Life's a Vapor* – infused-expression - https://youtu.be/DABUsxfAufc, *Now All* the *Woods Are Waking* – infused-expression - https://youtu.be/d-ogpMsk9hM.

Participants

Participants included four intact sixth-grade choir classes (female = 110, male = 15; age in years *M* = 11 years, 10 months, *SD* = 2.14 months) from two large middle schools located in the southeast United States. Both schools participated annually in performance evaluations and sent students to area honor choirs. Typical rehearsals at both schools included sight-reading, vocal warm-ups, and choral literature. Both teachers reported that their typical song learning sequence was more like the post-expression sequence. The study took place during regular class time during the 2019-2020 school year. The experimental procedures met all the requirements for human subjects' participation and was approved by the appropriate Institutional Review Board (IRB).

Procedures

To counterbalance and account for song difficulty, choir class one learned *Now All the Woods Are Waking* under the post-expression sequence and *Man's Life's a Vapor* under the infused-expression sequence. Choir class two learned *Now All the Woods Are Waking* under the infused-expression sequence and *Man's Life's a Vapor* under the post-expression sequence. Assigned sequences were alternated at the second school to account for sequence bias.

Participants were taught both songs *Now All the Woods Are Waking* and *Man's Life's a Vapor* in a large-group setting. The sequences were projected on a screen in front of the classroom. Students sat in their normal seating arrangement and sang along with the prerecorded sequences to learn each song. The music notation for each song was visible during

the learning and recording process. After completing the sequence, students spread out and stood approximately one to two meters apart from each other, held an iPad approximately 16 centimeters from their face, and recorded themselves using the IOS app Voice Recorder and Audio Editor (TapMedia Limited, 2018). During a recording prompt, a piano played the chords I, IV, I, V7, I in the correct key, and then the first two pitches. After establishing the key, students were counted in on "one, two, sing." Participants then pressed record and sang the entire melody. All students sang at the same time, but because of the proximity of the iPad and spacing of the students, each participant's individual voice could be heard in their recording. After singing the melody, participants pressed stop, saved their recording, and uploaded their recording to a designated online storage folder following directions projected on a screen. All recordings were performed *a cappella* without a conductor. Participants followed the same procedure for the second song.

One week after the initial learning sequence, participants stood in the same spread-out position. First, participants reviewed the song silently while looking at the music notation for one minute. Then, without practice, the participants recorded themselves singing each song again for the retention recording. The recording protocol and recording prompt for the retention test was the same as in the initial test.

Rubric

We created the rubric to evaluate each participant's recordings in the areas of articulation and dynamics. The original rubric was evaluated by five content experts and was improved upon based on their suggestions. In the final rubric, each phrase was evaluated for correct articulation (i.e. legato, staccato). If the participant sang the entire phrase with correct articulation, they received a three, if the articulation was present for only part of the phrase, they received a two, and if the articulation was not present at all they received a one. Dynamics were graded in a similar fashion. See Supplement 1 for more details.

Raters

A graduate assistant randomly coded all recordings with an identification number so all raters would be blind to the sequence, school, and class period. Due to the performance nature of the task, two content experts, as well as the two primary investigators, were solicited to act as raters. Raters were certified music educators who were current teachers at the elementary school, middle school, or collegiate levels ($M = 13.75$ years teaching experience; $SD = 9.04$; range: 3-27 years). All raters met and discussed the performance assessment rubrics. For training purposes, raters both together and individually evaluated recordings from a previous study to ensure understanding and agreement upon the vocabulary included in the measurement instrument (see Supplement 1 at the end of the article).

Raters listened individually using noise-cancelling headphones for no more than 30 minutes per day over four weeks. Raters were instructed to listen to each recording three times - once to identify the individual voice (within the large-group setting), once to assess articu-

lations, and once to assess dynamics. Raters were also encouraged to relisten to any phrases as needed and to stop between phrases to mark the score.

Ten recordings (five recordings of each song) were doubled in each raters' folder to assess intrarater reliability. To measure intrarater reliability, we ran a two-way mixed model intraclass correlation coefficient using absolute agreement on the 70 articulation and dynamic ratings found in these ten recordings. A high degree of intrarater reliability was found for all four raters. See Table 1 for individual rater results.

Table 1
Individual Intra-rater ICC, 95% Confidence Interval, F-values and p-values (n = 70)

	ICC	Confidence	F	p
Rater 1	.892	.826 - .933	9.265	<.001
Rater 2	.978	.965 - .986	45.692	<.001
Rater 3	.849	.757 - .906	6.617	<.001
Rater 4	.962	.939 - .976	26.177	<.001

An additional 16 recordings were placed in all four raters' folders to assess interrater reliability (eight recordings per song). For *Man's Life's a Vapor* the average measure (absolute) ICC was .945 with a 95% confidence interval from [.926 to .960] (F(111,333) = 18.181, p < .001). For *Now All the Woods Are Waking* the average measure (absolute) ICC was .946 with a 95% confidence interval from [.915 to .967] (F(47,141) = 18.239, p < .001). These results indicate there was little variation between raters.

Results

Man's Life's a Vapor had five articulation scores and three dynamics scores (*n* = 8 scores). Each score ranged from one to three; therefore the highest possible expressive score for *Man's Life's a Vapor* was 24. *Now All the Woods Are Waking* had four articulation scores and two dynamics scores (*n* = 6 scores). Each score ranged from one to three points; therefore the highest possible expressive score for *Now All the Woods Are Waking* was 18 points. Of the 125 participants, 67 experienced the infused-expression sequence for *Man's Life's a Vapor* and the post-expression sequence for *Now All the Woods Are Waking*. Fifty-eight participants experienced the post-expression sequence for *Man's Life's a Vapor* and the infused-expression sequence for *Now All the Woods Are Waking*. There were no missing data sets. The mean expressivity score was calculated by adding the articulation and dynamic scores for each participant on both songs. See Table 2 on the next page for the means by dynamic sum-scores (DSum), articulation sum-scores (ASum), and expressivity scores (Total) for songs combined and alone.

Table 2

Mean and Standard Deviations for Articulation (A), Dynamic (D), and Expressivity by Songs

	Man's Life's a Vapor							
	Initial Recording				Retention Recording			
	Infused-Expr.		Post-Expr.		Infused-Expr.		Post-Expr.	
	M	SD	M	SD	M	SD	M	SD
A1	1.07	.26	1.03	.17	1.09	.28	1.03	.17
A2	3.00	.00	3.00	.00	2.98	.13	2.97	.17
A3	2.91	.28	2.94	.24	2.91	.28	2.96	.21
A4	2.31	.80	1.66	.83	2.66	.57	1.85	.86
A5	2.07	.62	1.75	.72	2.55	.54	1.88	.69
A Sum	8.36	1.07	7.37	1.25	9.21	.78	7.72	1.14
D1	1.02	.13	1.18	.49	1.17	.46	1.04	.21
D2	1.53	.65	1.21	.54	1.40	.65	1.12	.41
D3	2.64	.64	2.06	.90	2.64	.67	1.51	.77
D Sum	5.19	.98	4.45	1.45	5.21	1.20	3.67	1.11
TOTAL	13.55	1.55	11.82	2.89	14.41	1.37	11.39	1.63

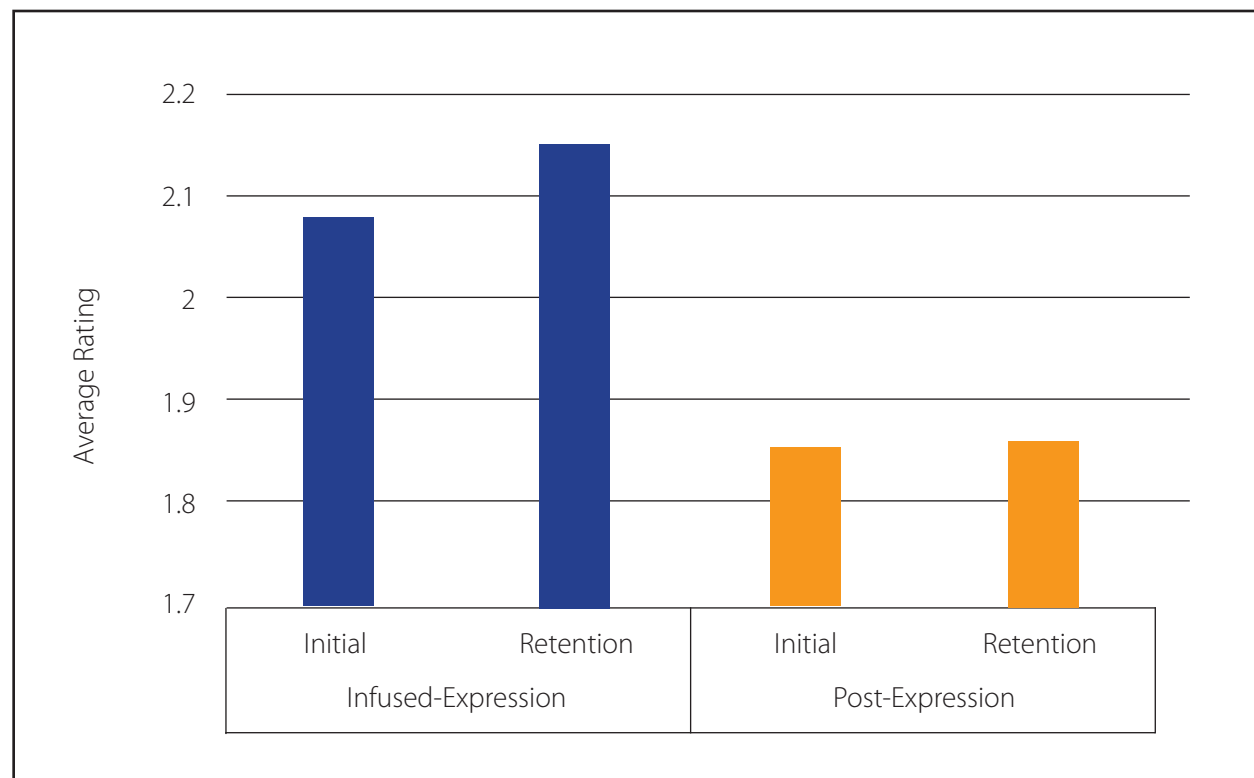|	Now All the Woods Are Waking							
	Initial Recording				Retention Recording			
	Infused-Expr.		Post-Expr.		Infused-Expr.		Post-Expr.	
	M	SD	M	SD	M	SD	M	SD
A1	1.51	.76	1.12	.33	1.52	.64	1.21	.41
A2	2.96	.27	2.98	.13	2.97	.17	2.98	.13
A3	2.45	.50	2.60	.53	2.55	.53	2.53	.50
A4	2.73	.48	1.98	.78	2.82	.39	2.40	.77
A Sum	9.64	.98	8.69	1.14	9.87	1.01	9.12	1.14
D1	1.48	.42	1.12	.46	1.54	.80	1.17	.50
D2	1.43	.66	1.22	.50	1.33	.61	1.26	.44
D Sum	2.91	1.28	2.34	.83	2.87	1.25	2.43	.68
TOTAL	12.55	1.77	11.03	1.50	12.73	1.63	11.55	1.38
ALL	13.02	1.74	11.46	1.99	13.51	1.73	11.46	1.52

Note: see Figure 1 for music notation to determine A1, A2, etc.

We conducted a three-way mixed analysis of variance (ANOVA) to determine whether there was an interaction between the sequence group, song, and time (initial recording to retention recording) on the expressivity score. In this study, sequence group (between-subjects factor), song (within-subjects factor), and time (within-subjects factor) were the three independent variables. The dependent variable was the expressivity score. Since there were differences in the number of ratings between songs, we took the individual participants' expressivity score and divided by the total number of articulation and dynamic scores to find their mean score.

The main effect of sequence showed a statistically significant difference on the mean expressivity scores between the infused-expression sequence ($M = 2.11$, $SD = .30$) and post-expression sequence ($M = 1.85$, $SD = .29$); $F(2, 247) = 142.94$, $p < .000$, partial $\eta^2 = .23$. However, there was no statistically significant main effect for time on mean expressivity scores between the initial test ($M = 1.96$, $SD = .29$) and the retention test ($M = 2.00$, $SD = .27$); $F(2, 247) = 1.00$, $p = .06$, partial $\eta^2 = .01$, or on song between *Man's Life's a Vapor* ($M = 1.96$, $SD = .27$) and *Now All the Woods Are Waking* ($M = 2.00$, $SD = .29$); $F(2, 247) = 1.00$, $p = .32$, partial $\eta^2 = .00$. These findings suggest that learning a song through an infused-expression sequence improved expressivity on performance for these students compared to students learning through a post-expression sequence but there were no differences on expressivity scores depending on the song or test. No matter the sequence, participants maintained their expressive performance after a week's time for songs and the scores were consistent across sequences (see Figure 2).

Figure 2

Averaged Expressivity Scores by Sequence

There was a small significant three-way interaction between sequence (infused-expression and post-expression), song (*Man's Life's a Vapor* and *Now All the Woods Are Waking*), and test (initial test and retention test) $F(2, 247) = 6.32$, $p = .01$, partial $\eta^2 = .02$, but no significant interaction between sequence and the song ($F(2, 247) = 2.81$, $p = .10$, partial $\eta^2 = .00$), between song and test ($F(2, 247) = 1.49$, $p = .22$, partial $\eta^2 = .00$), and sequence and test ($F(2, 247) = 1.50$, $p = .22$, partial $\eta^2 = .00$). These results suggest participants performed in a similar manner on both the initial test and retention test for both songs, with little improvement or decline in performance, depending upon the sequence with which they learned the song.

Discussion

We explored the effects of rehearsing expressive elements throughout the song-learning sequence (infused-expression) compared to rehearsing expressive elements after learning rhythm, pitch, and text (post-expression). We also investigated how various sequences affect expressive retention over time. In this experiment, singers learned two songs through two different sequences. The infused-expression sequence introduced the song's expressive elements while learning the rhythm, pitch, and text. The post-expression sequence introduced the song's expressive elements after the singers had already learned the rhythm, pitch, and text. Participants who learned a song under the infused-expression sequence scored significantly higher on the expressivity score than participants who learned the song under the post-expression sequence. This finding supports the effectiveness of an infused-expression sequence as recommended by Jaques-Dalcroze (1967), Leck and Jordan (2009), and Robert Shaw (Yarbrough, 2002).

We were also interested in whether the learning sequence influenced the retention of musical expression. In this experiment, all participants returned after a week and recorded each song again after reviewing the music silently for one minute. The overall results suggest that expressive elements demonstrated in the initial recording were retained and demonstrated again on the retention recording, some with slight improvements, more often in the infused-expression sequence recordings. Neither sequence appeared to be better or worse at improving expression retention.

Though both sequences had the same number of repetitions, participants in the infused-expression group had more opportunities to perform expressive elements as expression was embedded in each repetition. Furthermore, the directive questions and vocal models in the infused-expressive sequence encouraged participants to perform expressively from the very beginning of the sequence. For the post-expression sequence group, directive questions and vocal models did not include expressive elements until late in the post-expression sequence. Consequently, participants practiced without expression then were expected to change the way they performed midway through the learning sequence. This change mid-sequence may have been more difficult than learning the articulations and dynamics

from the very beginning because there were fewer opportunities to practice the expressive elements and because learning a melody two different ways (without and with expression) can be challenging. When expression is rehearsed in each step from the beginning of the song learning sequence, rhythm, pitch, text, and expression all have equal numbers of repetitions and opportunities for mastery.

In this study, we anticipated many students would sing off-pitch even though we strategically picked music and planned sequencing that would ensure successful acquisition. Interestingly, no child performed incorrect rhythms except when the first entrance of the song was late (fewer than five participants). Furthermore, raters only wrote comments about off-pitch or speaking voice for two students. Though quite a few students had intonation issues in some parts of each song, the raters mentioned being pleasantly surprised so many students used their singing voice and sang mostly in tune. In general, participants who learned expression from the beginning performed more expressive elements on initial and retention tests compared to participants who learned expression after rhythm, pitch, and text.

Limitations and Further Research

All participants were members of intact sixth-grade non-auditioned middle school treble choirs predetermined by school and class period, making it impractical to balance groups based on singing ability, expression skills, or previous choral experience. For the song *Man's Life's a Vapor* there was no significant difference between schools for average mean for expressivity score. However, for the song *Now All the Woods Are Waking,* school one's mean score was significantly higher than school two's mean score for the expressivity score. Though all participants at both schools experienced both an infused-expression sequence and a post-expression sequence (counterbalanced), teacher influence and differing ability levels between teachers and students could have influenced the results. Further research could balance groups based on previous choral experience and vocal ability or randomly assign participants within each class.

Students in this study experienced the song-acquisition sequence in a group setting. Participants recorded themselves individually while singing with other choir members. How much or little a participant influenced other participants was not accounted for in this study. We chose to have students rehearse and be assessed in a group setting because we were interested in how students behave in a typical choral rehearsal rather than as a solo singer. In one of the classes at one school there was a participant who sang the final phrase of *Man's Life's a Vapor* rather loudly in a heavy chest voice. This participant could often be heard in the background of other participants' recordings. Results may have been different if students learned the sequence individually and were recorded without others singing with them. Further research could assess singers individually rather than in a group setting.

We observed that staccato markings that occurred towards the beginning of each song scored much lower than staccato markings towards the end of each song. These lower scores occurred in both sequences and on both recordings. This same phenomenon occurred with

dynamics in the song *Man's Life's a Vapor*. Students may have become more accustomed to the prerecorded learning sequence by the later phrases of the song, resulting in more articulation and dynamic accuracy. Or, students just did not remember on their own to start with articulations or dynamics. No conductor was present for the initial or retention recordings and therefore no preparatory conducting gestures were given. The lack of a conductor might have influenced the performance of the initial expression articulations and dynamics. Further research could mix the order of staccato and dynamic changes to explore this result.

The difference in the number of times the infused-expression sequence group heard an expressive model may have resulted in a more accurate performance compared to the post-expression sequence group (Woody, 2006). During the infused-expression learning sequences, participants heard an expressive model throughout the entire sequence a total of seven times. During the post-expression learning sequence participants heard the expressive model in the beginning and towards the end of the sequence a total of four times.

Based on our own teaching experiences, observing other teachers, and textbook methodologies (Collins 1993; Phillips, 2004; Robinson & Winold, 1976), many teachers typically introduce a song without expressive elements, waiting to model and give feedback on expressive elements until after the rhythm, pitches, and text are learned. Therefore, we chose to create the post-expression sequence in this way to represent a real-world classroom more accurately. Further research could use an expressive model throughout the post-expression sequence to determine if the higher scores for the infused-expression group were a result of the model throughout the sequence or the extra repetitions with expression.

Future studies could also explore how learning sequences affect other expressive criteria besides articulation and dynamics. There are many other musical characteristics that help create an expressive performance, such as phrasing, various articulations, beat stress, facial expressions, and body expression (Leck & Jordan, 2009). Furthermore, sequences in this study lasted around six minutes and used a simple unison melody. Future research could explore how an infused-expression sequence and a post-expression sequence influence expressivity using a longer learning sequence, with a more complex song, with multiple parts.

Conclusion

The results showed an infused-expression sequence was the more effective process for teaching students the expressive elements of a song in this study. Learning a song expressively from the beginning resulted in these students singing with expression that was more accurate on both the initial test (immediately after learning the song) and on the retention test (one week later). An infused-expression sequence might have been effective because it drew the students' attention to the expressive details of the song repeatedly. Focusing on the expressive elements of a song earlier provided students additional opportunities to practice and receive feedback regarding expressive elements.

Some teachers may be concerned that focusing on expression from the beginning would

hinder students' abilities to perform rhythms and pitches accurately. Performing more than one task at a time (i.e. rhythm, pitch, and expression) can create a highly challenging environment. Without adequate support from the teacher, performing multiple tasks concurrently can cause anxiety and frustration (Mariani, 1997). Therefore, teachers should pick appropriate level repertoire, assess often, understand each individual student's abilities, and only add the next smallest step that all students can complete successfully. Planning appropriate level musical tasks and repertoire, sequencing and scaffolding rehearsals to ensure success, and allowing multiple successful repetitions creates positive habits of expressive singing.

Additionally, teachers could consider focusing on smaller sections of music and teach expression plus one element (i.e., rhythm, pitch, text) rather than long sections teaching only one song element. For example, students could learn the rhythm and expression for eight measures rather than learn only the rhythm for 16 measures of a song during a rehearsal segment. Mastering smaller chunks of a song may help students feel more successful and not feel as overwhelmed. Often expressive skills learned in one section can be transferred to similar sections in other parts of the song, accelerating the learning process.

Choral pedagogy textbooks have differed on when to introduce and rehearse expressive elements in a song-learning sequence, weighing heavily on pitch and rhythms first. However, the results of this study show an advantage to learning expression in conjunction with rhythm, pitch, and text, thus providing support for introducing expressive elements early and often in music learning. Considering these findings with young voices, teachers should evaluate their song-learning sequences and explore introducing expressive elements early in the song learning process.

References

Audacity. 2.3.1. (2018). [Computer Software]. https://www.audacityteam.org/

Broomhead, P. (2001). Individual expressive performance: Its relationship to ensemble achievement, technical *achievement, and musical background. Journal of Research in Music Education, 49,* 71-84. https://doi.org/10.2307/3345811

Broomhead, P. (2006). A study of instructional strategies for teaching expressive performance in the choral rehearsal. *Bulletin of the Council for Research in Music Education,* (167), 7-20. https://www.jstor.org/stable/40319286

Broomhead, P., Skidmore, J. B., Eggett, D. L., & Mills, M. M. (2012). The effects of a positive mindset trigger word pre-performance routine on the expressive performance of junior high age singers. *Journal of Research in Music Education, 60,* 62-80. https://doi.org/10.1177/0022429411435363

Collins, D. L. (1993). *Teaching choral music.* Prentice Hall.

Dunn, D. E. (1997). Effect of rehearsal hierarchy and reinforcement on attention, achievement, and attitude of selected choirs. *Journal of Research in Music Education, 45,* 547-567. https://doi.org/10.2307/3345422

Ebie, B. D. (2004). The effects of verbal, vocally modeled, kinesthetic, and audio-visual treatment conditions on male and female middle-school vocal music students' abilities to expressively sing melodies. *Psychology of Music, 32,* 405-417. https://doi.org/10.1177/0305735604046098

Gabrielsson, A., & Juslin, P. N. (1996). Emotional expression in music performance: Between the performer's intention and the listener's experience. *Psychology of Music, 24,* 68-91. https://doi.org/10.1177/0305735696241007

Goetze, M., Broeker, A., & Boshkoff, R. (2011). *Educating young singers: A choral resource for teacher-conductors.* MJ Publishing.

Hurley, C. R. (2019). *The effects of rehearsal sequence on the expressivity of children's choral performance* [Doctoral dissertation, University of Georgia]. www.esploro. libs.uga.edu http://getd.libs.uga.edu/pdfs/hurley_craig_r_201905_edd.pdf

Jaques-Dalcroze, É. (1967). *Rhythm, music & education;* London, Dalcroze Society, 1967.

Juslin, P.N., & Laukka, P. (2003). Communication of emotions in vocal expression and music performance: Different channels, same code? *Psychological Bulletin, 129,* 770–814. https://doi.org/10.1037/0033-2909.129.5.770

Leck, H. H., & Jordan, F. L. (2009). *Creating artistry through choral excellence.* Hal Leonard.

Lindström, E., Juslin, P. N., Bresin, R., & Williamon, A. (2003). "Expressivity comes from within your soul": A questionnaire study of music students' perspectives on expressivity. *Research Studies in Music Education, 20,* 23-47. https://doi.org//10.1177/1321103X030200010201

Mariani, L. (1997). Teacher support and teacher challenge in promoting learner autonomy. *Perspectives: A Journal of TESOL Italy, 23,* (2). http://www.learningpaths.org/papers/papersupport.htm

Marchand, D. J. (1975). A study of two approaches to developing expressive performance. *Journal of Research in Music Education, 23,* 14-22. https://doi.org/10.2307/3345199

Mann, B. A. A. (2008). *The effect of vocal modeling on student achievement and attitude* [Doctoral dissertation, University of Oregon]. www.search.proquest.com

Meissner, H. (2017). Instrumental teachers' instructional strategies for facilitating children's learning of expressive music performance: An exploratory study. *International Journal of Music Education, 35,* 118-135. https://doi.org/10.1177/0255761416643850

Phillips, K. H. (2016). *Directing the choral music program* (2nd ed). Oxford University Press.

Robinson, R., & Winold, A. (1976). *The choral experience: Literature, materials, and methods.* HarperCollins College.

Scruton, R. (1982). Expression in S. Sadie (Ed.), *The new grove dictionary of music.* Oxford University Press.

Skadsem, J. A. (1997). Effect of conductor verbalization, dynamic markings, conductor gesture, and choir dynamic level on singers' dynamic responses. *Journal of Research in Music Education, 45,* 509-520. https://doi.org/10.2307/3345419

Stamer, R. A. (1999). Motivation in the choral rehearsal: Asking students what motivates them and working with their responses stimulates the learning atmosphere in the choral rehearsal. *Music Educators Journal, 85*(5), 26-29. https://doi.org/10.2307/3399544

TapMedia Limited (2018). *Voice recorder and audio editor* [iPad application software]. https://itunes.apple.com/us/app/voice-recorder-audio-editor/id685310398#?platform=ipad

Van Zijl, A. G., & Luck, G. (2013, June 11-15). *The sound of sadness: The effect of performers' emotions on audience ratings.* The 3rd International Conference on Music & Emotion, Jyväskylä, Finland. https://jyx.jyu.fi/handle/123456789/41584

Van Zijl, A. G., & Sloboda, J. (2011). Performers' experienced emotions in the construction of expressive musical performance: An exploratory investigation. *Psychology of Music, 39,* 196-219. https://doi.org/10.1177/0305735610373563

Van Zijl, A. G., Toiviainen, P., Lartillot, O., & Luck, G. (2014). The sound of emotion: The *effect of performers' experienced emotions on auditory performance characteristics. Music Perception: An Interdisciplinary Journal, 32,* 33-50. https://doi.org/10.1525/mp.2014.32.1.33

Watkins, C., & Scott, L. (2012). *From the stage to the studio: How fine musicians become great teachers.* Oxford University Press.

Woody, R. H. (1999). The relationship between explicit planning and expressive performance of dynamic variations in an aural modeling task. *Journal of Research in Music Education, 47,* 331-342. https://doi.org/10.2307/3345488

Woody, R. H. (2000). Learning expressivity in music performance: An exploratory study. *Research Studies in Music Education, 14,* 14-23. https://doi.org/10.1177/1321103X0001400102

Woody, R. H. (2006). The effect of various instructional conditions on expressive music performance. *Journal of Research in Music Education, 54,* 21-36. https://doi.org/10.1177/002242940605400103

Yarbrough, C. (2002). Sequencing musical tasks: The teaching artistry of Robert Shaw. *Update: Applications of Research in Music Education, 21*(1), 30-37. https://doi.org/10.1177/87551233020210010601

Supplement 1 :
Rubrics

Now All the Woods Are Waking				
Articulation	3	2	1	Notes
A1 "Now all the woods are waking"	100% of the notes were sung staccato	Some of the notes were sung staccato	None of the notes were sung staccato	"wak" & "ing" is not scored
A2 "the sun is rising high"	100% of the notes were sung legato	Some of the notes were sung legato	None of the notes were sung legato	
A3 - Wake up now!, Get up now!	100% of the notes were sung legato	Some of the notes were sung legato	None of the notes were sung legato	"now" to "get" must be connected for a 3, the last "now" is not scored
A4 - "Before the dew is dry."	100% of the notes were sung staccato	Some of the notes were sung staccato	None of the notes were sung staccato	"dry" is not scored
Dynamic	3	2	1	Notes
D1 "high" to "Wake"	Singer sang louder on the word "wake" than on the word "high" and the dynamic lasted the entire phrase	There was a change in dynamic level at some point in the phrase, but it was not present for the entire phrase.	There was no change in dynamic level.	Compare D5 in measure 3 against D5 in measures 5-6
D2 "now" to "be"	Singer sang quieter on the word "be" than on the word "now" and the dynamic lasted the entire phrase	There was a change in dynamic level at some point in the phrase, but it was not present for the entire phrase.	There was no change in dynamic level.	Clear difference than previous phrase

Man's Life's a Vapor				
Articulation	3	2	1	Notes
A1 - Man's Life's a Vapor	100% of the notes were sung staccato	Some of the notes were sung staccato	None of the notes were sung staccato	If only the "por" of "vapor" is sung staccato than it is still a 1
A2 - full of woes	100% of the notes were sung legato	Some of the notes were sung legato	None of the notes were sung legato	

A3 - He cuts a caper	100% of the notes were sung legato	Some of the notes were notes were sung legato	None of the notes were sung legato	Compare and contrast A1 and A3 - they should be sung differently. If the "per" of "caper" is clipped it is a 2.
A4 - down he goes	100% of the notes were sung staccato	1 of the 2 notes were sung staccato	0 notes were sung staccato	"goes" is not scored.
A5 - Down he, down he, down he, down he	Notes are obviously separated	Strong "D" and "H'''s gave the impression of separation	Phrase is sung slurred and smooth.	
A6 - down he goes.	Do not score articulation	Do not score articulation	Do not score articulation	
Dynamic	**3**	**2**	**1**	**Notes**
D1 "woes" to "he"	Singer sang louder on the word "he" than on the word "woes" and the dynamic lasted the entire phrase	There was a change in dynamic level at some point in the phrase, but it was not present for the entire phrase.	There was no change in dynamic level.	
D2 "goes" to "down"	Singer sang quieter on the word "down" than on the word "goes" and the dynamic lasted the entire phrase	There was a change in dynamic level at some point in the phrase, but it was not present for the entire phrase.	There was no change in dynamic level.	
D3 "he" to "down"	Singer sang louder on the word "down" than on the word "he" and the dynamic lasted the entire phrase	There was a change in dynamic level at some point in the phrase, but it was not present for the entire phrase.	There was no change in dynamic level.	