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Effects of Deliberate Play Activities on Middle School Student Motivation and Performance

Jackie Lordo
Cottey College

This study was designed to investigate whether the inclusion of deliberate play activities would impact scale accuracy in middle-school band students. A pre and posttest survey of practice habits and motivation levels was also examined. Students (N = 18) in the two experimental classes replaced in class scale study with deliberate play activities, while students (N = 19) in two control classes continued to practice scales in class as part of the normal band warm-up. An analysis of weekly scale tests revealed no significant differences ($p > .05$) between control and experimental groups; however, scores increased significantly over four weeks ($p = .002$). There were no significant differences on any of the survey questions between pre and posttreatment. Although limited in size and time frame, the findings of this study did reveal that student learning was not hindered by deliberate play activities.

People try new things and put forth extra effort for a variety of reasons. Most music educators would agree that success in music requires effort; the greater the success, the greater the effort required. Practice is an essential part of developing musical expertise. Scholars have investigated how music students have learned through practice since the mid-twentieth century. Now into the twenty-first century, psychologists have established many ways that individuals in various domains acquire and improve skills through practice. Recent advances in sport psychology have identified skills athletes gain during play-like activities, rather than traditional practice activities (Côté, Baker, & Abernethy, 2007). These play-like activities are enjoyable in nature, and athletes gain and refine skills through these activities. Because these play-like activities are enjoyable and often challenging, they could lead to increased motivation. Prior to considering how these play-like activities could function in music, one must therefore review the issues surrounding practice, play, and motivation.

Practice activities considered to be *deliberate practice* are defined as mentally exhausting, often not enjoyable, aimed at improving specific tasks or skills through a feedback loop, and, for musicians, usually occur alone (Ericsson, Krampe, & Tesch-Romer, 1993). The best “practicers” are individuals who excel at the feedback loop, which has three steps: (a) learners will attempt a specific task, (b) they will receive internal or external feedback about the attempt, and (c) they will set a new goal based on the feedback received (Miksza, 2011). During deliberate practice, musicians use strategies such as choosing a small segment of music to play at a slow or fast tempo, practicing the scale or chord that

is the basis for a pattern, or separating one aspect of playing on which to focus, such as fingerings or rhythms. A number of these strategies have been used for generations. Researchers have investigated several of the strategies often used in deliberate practice. Listening to a recorded model (Hewitt, 2001), practicing in multiple ways (Stambaugh, 2010), and evaluating a self-recording (Hewitt, 2005) - which are all forms of deliberate practice - have been found to lead to improved performance.

Expert and developing musicians use varying lengths of practice time, with deliberate practice accounting for much of the difference between the groups (Ericsson et al., 1993; Miksza, Prichard, & Sorbo, 2012). Generally, students' total deliberate practice per week increases over time as they develop more musical skills. Researchers conducting an observational study of middle school performers found that the more successful students spent a greater amount of their practice time engaged in mindful activities (deliberate practice) rather than the mindless repetition that characterized the weaker players (Duke, Simmons, & Cash, 2009). Another observational study of middle school students' practice identified practice techniques and other decisions made during deliberate practice (Oare, 2012). Clearly, deliberate practice is a part of advanced music skill development.

Before deliberate practice becomes the primary method of music skill acquisition, children gain skills through music play. Various concepts of play have been used to describe interactions among young children¹; I am operationally defining free play to be those activities that are enjoyable, process-oriented, and involve exploration or imagination. One example of free play is children chasing each other around a playground, where groups and roles change often. Early childhood music researchers have used a similar concept of free play to define music play: process-oriented, enjoyable, exploratory, and using musical sounds as a function of the play (Soccio, 2013). Whiteman (2009) observed preschool students for two years and categorized the songs produced during music play; the students' songs grew in length, complexity, balanced structure, and originality over the course of the study. Children also learn from each other while engaged in musical play (Tarnowski, 1999). Results from these studies indicate that children gained skills through music play; however, presently available music play research has focused on children under age 10.

Based on the aforementioned research, young children learn through music play, while adolescents and adults learn through deliberate practice. However, are music play and deliberate practice the only ways musicians gain skills during development? Recent research in sport psychology may provide insights into the gap that exists between music play and deliberate practice.

¹ Play is a multi-faceted area of research with many ties to issues such as creativity, motivation, and social development. For a broad review of play research, see Pellegrini, A. D. (2009). Research and policy on children's play. *Child Development Perspectives*, 3(2), 131-136.

Deliberate practice has been shown to be an effective tool for athletes, but it cannot account for all development, or for those expert and elite athletes who are able to transition to different sports later in their careers. After an investigation of families containing at least one expert athlete, Côté (1999) developed the concept of deliberate play to describe activities that were not deliberate practice or free play, but were a large part of skill development for the athletes. Deliberate play activities are enjoyable and process-oriented, like free play, but often have some form of rules, which may have been borrowed or adapted from organized activities. Similar to deliberate practice, deliberate play activities generally involve a feedback loop; although feedback during deliberate play comes not from a coach, as often occurs in deliberate practice, but from immediate success or failure at a necessary skill. For example, if a child learns to run faster or change directions more quickly than their opponents as a result of playing tag, then that child will be better at the game, without the need for an adult/coach to teach these evasive maneuvers. Researchers have argued that athletes gain many important skills, such as agility, speed, coordination, and spatial awareness, during deliberate play activities (Memmert, Baker, & Bertsch, 2010).

Elite athletes in hockey, triathlons, and other sports have reported participating in deliberate play activities during their development, typically spending the most time in deliberate play in the early and middle stages of their careers (Côté et al., 2007). Experts in other sports such as figure skating and gymnastics, however, often specialize early, by age eight. Early specialization sports have a higher rate of burnout and lack of motivation for participating athletes (Côté, Lidor, & Hackfort, 2009). Some have argued that the large amount of deliberate practice and lack of deliberate play required at such a young age could be one reason for the drop-out issues in these early specialization sports, even going so far as to argue against early specialization for most young athletes.

Despite dynamic teachers and coaches, the issues of motivation and perseverance are complex for any domain. There are several theories about how motivation functions for individuals and groups. Particularly relevant to the issues of deliberate play and deliberate practice is *attribution theory*. Attribution, when related to motivation, refers to the perceived cause of success or failure (O'Neill & McPherson, 2002). Individuals with attribution problems will often cite talent, luck, or some other innate characteristic as the cause of another person's success, while disregarding or not recognizing the effort that led to the success. These same individuals also will look at any personal success as a result of luck or circumstances rather than effort. The result is a continually frustrating, demotivating cycle. Attribution can function as a source of motivation, however, if the correct combination of causes is viewed as the reason for success or failure. For example, failure that is perceived as a lack of preparation can inspire individuals to work harder for the next opportunity. Likewise, success viewed as a result of effort can inspire continued or increased effort. Because one of the primary characteristics of deliberate practice is repeated attempts, correct attribution may aid in continued motivation, whereas incorrect attribution would lead to less motivation and effort. Similarly, deliberate play includes feedback on

performance attempts, albeit less formal sources of feedback than deliberate practice. Given that deliberate play is enjoyable, a correct attribution linking additional effort and multiple attempts with improved performance could be an essential source of motivation. Conversely, few people would reasonably consider a series of frustrating events as enjoyable. Therefore, they are unlikely to continue participating in the events causing the frustration. Thus, deliberate play activities should encourage correct attribution and high levels of motivation. Unfortunately, I was unable to find any research examining motivation and deliberate play. Multiple models of motivation in sport do link extended free play during an athlete's early years to high levels of intrinsic motivation (Vallerand & Rousseau, 2001); however, these writings only consider the unstructured activities of free play, not deliberate play.

As described previously, deliberate practice is an important element of expertise development for musicians, although results from studies involving young children have indicated that skills were gained during music play as well. Present explanations using deliberate practice and music play do not account for any skills musicians gain through other activities (i.e., activities that are too structured to be considered free play and are too enjoyable and flexible to be categorized as deliberate practice). For example, sight reading chamber music for entertainment purposes with friends requires the structure of synchronization and relatively accurate notes or rhythms, and yet allows the freedom to restart, and adjust as necessary. Unlike in music research, sport psychology results indicate that skills are gained and refined through both deliberate play (Pesce, Masci, Marchetti, Vazou Sääkslahti, & Tomporowski, 2016) and deliberate practice (Memmert et al., 2010). Research is needed to identify whether music skills can be acquired through deliberate play. Research into early specializers has revealed motivation and burnout problems, potentially from early intense practice and considerably fewer hours of deliberate play. While deliberate play should lead to more correct attribution and higher motivation, I was unable to find research connecting these issues. I designed this study, therefore, to investigate two main areas where research is lacking: (a) the application of deliberate play activities to music and (b) the probable connection between attribution theory, motivation, and deliberate play. The following research questions guided this study:

1. Do students' performance ratings increase as a result of deliberate play activities?
2. Do students rate their motivation to practice differently after deliberate play activities?
3. Do students report spending more time practicing after engaging in deliberate play activities?

Method

Because athletes engage in the most deliberate play activities during the early and middle stages of their careers, the desired music population to test deliberate play activities would also be in the early or middle part of their careers. Middle school students have enough musical background to participate in deliberate play activities but are still early enough in their development to be similar to athletes when they experience deliberate play. Middle school students also have the emotional knowledge to understand and express their feelings about motivation.

Participants in my investigation were middle school band students in grades 6, 7, and 8 who had played their instruments for at least five months prior to the beginning of the study. Participants played a mix of brass, woodwind, and percussion instruments. All percussionists in this study were currently playing mallet instruments in class. The students were all members of four intact classes taught in two different schools by two different music teachers. There were 46 participants who began the study, but only those students who completed all aspects of the study were included in the results ($N = 37$). Prior to selecting the schools, I compared demographic data. Racial/ethnic make-up was matched well between the schools, although there were a higher percentage of Caucasian students in the selected schools (92.7% and 84.2%) than the state average (73.3%). Free/Reduced lunch rates were also comparable between the two schools at 50% and 49.3%.² Thus, the schools were considered as close a match as possible based on demographic data.

I also compared the structure and curriculum of the two band programs before selecting the schools. Both programs start instrumentalists at the beginning of Grade 6 in one class containing all instruments. Students in Grade 7 or 8 are in the combined intermediate band. Each class meets daily for approximately 40 minutes. The teachers used similar beginning band technique books for their respective programs. The grade levels at the two schools were at or near the same level within the books, despite the difference in chosen curriculum. Before beginning the study, each teacher began the class with a warm-up which included scale study based on exact repetition or playing the scale in the same pattern every time. Because the programs were similar in structure and curriculum, I considered them an acceptable match despite the unavoidable instructional differences due to different teachers.

Most practice activities are designed to develop consistent technique through deliberate practice. Although scales may not seem exciting or fun to practice, they are a foundational component of most band programs. Therefore, scales would likely already be a normal classroom activity for any participating band. Because of their simplicity, scales can be reproduced in many different combinations, making them a flexible medium for alteration. Thus, I selected scale practice as

² Data gathered from the Missouri Comprehensive Data System provided by the Missouri Department of Elementary and Secondary Education (DESE) on 8/25/14.
<https://mcds.desse.mo.gov/quickfacts/sitepages/districtinfo.aspx>

the activity to manipulate for this study. Each class used the major scale they were already assigned for the week, thereby following the natural progression of each classroom as closely as possible.

In order to simulate deliberate play in a formal music setting, I gave each teacher a set of researcher-designed deliberate play activities to replace the normal scale practice during warm-up sessions (see Appendix A for list and description of activities). Each of the activities was based on a popular children's game; the activities were designed to be fun and to require note accuracy for higher success, just as athletic deliberate play activities require greater skill for success. These activities were similar in design to deliberate play in music described in Lordo (2015). For example, the game, "Red light, Green light" was transformed into "Stop, Go," which required the students to play up and then down the scale only when the "Go" sign was displayed. The teacher introduced the new activities to the class and then let the students choose an activity for at least the first two weeks. By the beginning of week three the students were choosing and leading the scale activities each day. The leadership of the activities was shifted from teacher to student in order to better simulate the child-led deliberate play of young athletes.

Because I considered the schools equivalent, the treatment and control groups were blocked within each the school. Each teacher taught one class with normal scale repetitions during warm-ups (control) and one class with deliberate play activities during warm-ups (treatment). The students were evenly distributed between deliberate play ($n = 18$) and no change to scale activities ($n = 19$), making comparisons between groups appropriate for this study. The control groups completed typical scale practice during warm-up sessions of approximately the same time length and number of repetitions as the deliberate play groups (approximately five minutes per day).

Each participant performed a scale during their weekly playing assignment; these performances were audio recorded, which resulted in a total of 168 recordings. Recordings were rated for overall quality on a scale of 1-10 by two music teachers with over 10 years of experience teaching middle school instrumentalists. For reliability purposes, each teacher rated 32 recordings (approximately 20% of the total number of recordings) and ratings indicated an interrater reliability level of .95, which was considered acceptable. Each teacher then finished the remaining recordings from their half. Averaged scores were used for the 32 recordings that were judged twice; all other recordings used the score of the assigned teacher.

I constructed and utilized a questionnaire (see Appendix B) to determine reported practice behaviors, sources of motivation, and correct or incorrect attribution. The first section included questions about demographics; the results were used to identify any students with either more or less band experience than the level determined for this study. The questions in the second section were about practice behaviors such as frequency of practice, scale practice outside of class, and variability of practice techniques. The final section included statements designed to check for correct attribution, linking effort to success, and to identify potential sources of motivation for band participation. These reasons for

participation were selected based on previous research about why students choose to play in band (O'Neill & McPherson, 2002). Participants filled out the questionnaire about practice habits and motivation at the beginning and end of the study.

Results

The scale performance data from each week were analyzed to compare the effects of deliberate play activities on the performance scores over time for the treatment and control groups. To ensure that the different teachers and schools were not confounding factors, performance data were analyzed between schools using a two-way repeated measures ANOVA. There was no significant main effect for school, $F(1, 3) = 2.71, p > .05$, or time, $F(1, 3) = 6.14, p > .05$. There was also no significant interaction between schools over time, $F(1,3) = 1.74, p > .05$, reaffirming the decision to treat the schools as equal.

Next, I completed a two-way repeated measures ANOVA to compare the performance scores by experimental condition over time. Table 1 shows the means and standard deviations of condition over time. There was a significant main effect of time, $F(1, 3) = 6.14, p = .002$. Students performed the scales significantly better at the end of the study than the beginning. However, there was no significant difference in performance scores between treatment and control conditions, $F(1, 3) = 2.63, p > .05$. Students who practiced with the deliberate play activities improved at a similar rate to those who practiced with traditional methods. There were no significant interaction effects.

Table 1. Means and Standard Deviations for Performance Scores Over Time by Treatment Condition

Week	Deliberate Play		Deliberate Practice	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Week 1	5.47	.76	7.39	.48
Week 2	6.65	.85	6.94	.54
Week 3	7.74	.56	8.16	.35
Week 4	7.40	.72	7.44	.45

The questionnaire data were analyzed to investigate any changes in practice behavior, potential sources of motivation, or attribution. Means and standard deviations by grade level are reported in Table 2. I used a repeated measures ANOVA to compare means by grade level and to check for the potential confounding factor of age. Each question was analyzed individually, because the questions were designed to identify students' viewpoints on different aspects of learning an instrument and motivation (see Table 3). There was only one question about practice behavior on which sixth graders responded significantly higher than the seventh/eighth graders: "some individuals are naturally better at music performance" ($p < .05$). The means for all other questions on potential sources of

motivation and attribution were not significantly different between grade levels, there were no significant differences across time, and no significant grade level by time interactions ($p > .05$).

Table 2. Questionnaire Pre and Posttreatment Means and Standard Deviations by Grade Level

Survey Question	Sixth Grade				Seventh/Eighth Grade			
	Pretreatment		Posttreatment		Pretreatment		Posttreatment	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Practice Frequency	3.57	.76	3.50	.85	2.20	1.00	2.04	1.04
Scales at Home	3.00	1.30	3.00	1.52	2.00	1.00	1.92	.95
New Ways to Practice	2.57	1.45	2.57	1.09	1.76	.97	1.80	.87
Like Playing	1.57	.76	1.43	.51	1.76	.60	1.96	.73
Better Player	1.57	.64	1.57	.65	1.84	.80	2.08	.95
Improve Skills	1.79	.58	1.57	.51	2.16	1.07	2.12	.97
Best of Ability	1.29	.47	1.50	.52	1.52	.59	1.72	.68
Practice Regularly	1.64	.63	1.93	.83	2.36	1.04	2.36	.95
Naturally Better	2.57	1.45	2.21	.70	1.96	.93	1.60	.76
Love Music	1.79	.97	1.79	.97	2.08	1.08	2.36	1.29
Social	3.14	1.35	3.14	1.41	2.28	1.06	2.60	1.19
Teacher	2.46	1.13	2.79	1.41	2.60	.96	2.52	1.05
Expectations	3.43	1.40	3.29	1.20	2.92	1.04	2.96	1.43
Parents	4.00	1.47	3.71	1.44	3.54	1.50	3.20	1.58

Table 3. Results of Repeated-Measures ANOVAs for each Questionnaire Item Comparing Mean Responses by Grade Level from Pre to Posttreatment

Questionnaire Question	Degrees of Freedom	Mean Square	F value	Significance
Practice Frequency	1	.083	.240	.324
Scales at Home	1	.029	.119	.732
New Ways to Practice	1	.007	.010	.919
Like Playing	1	.015	.079	.780
Better Player	1	.258	.779	.383
Improve Skills	1	.290	1.402	.244
Best of Ability	1	.770	3.970	.054
Practice Regularly	1	.366	1.009	.322
Naturally Better	1	2.308	5.513	.024*
Love Music	1	.352	.839	.366
Social	1	.459	.862	.359
Teacher	1	.023	.078	.782
Expectations	1	.047	.064	.801
Parents	1	.303	.311	.581

* $p < .05$

The questionnaire data from each question were analyzed using a repeated measures ANOVA to compare the effects of deliberate play versus traditional scale practice on questionnaire responses pre and posttreatment. Means and standard

deviations for pre and posttreatment by condition are listed in Table 4. There were no significant differences in the questionnaire responses between groups, from pretreatment to posttreatment, and no significant time by group interactions ($p > .05$; see Table 5). Student responses did not change after treatment.

Table 4. Questionnaire Pre and Posttreatment Means and Standard Deviations by Treatment Condition

Survey Question	Deliberate Play				Deliberate Practice			
	Pretreatment		Posttreatment		Pretreatment		Posttreatment	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Practice Frequency	2.70	1.26	2.89	1.29	2.68	1.00	2.26	1.05
Scales at Home	2.50	1.36	2.60	1.47	2.21	1.03	2.00	1.00
New Ways to Practice	2.05	1.43	2.10	1.07	2.05	.97	2.05	.97
Like Playing	1.65	.67	1.55	.51	1.74	.65	2.00	.82
Better Player	1.60	.60	1.50	.61	1.89	.88	2.32	.95
Improve Skills	1.70	.57	1.65	.49	2.37	1.12	2.21	1.08
Best of Ability	1.45	.51	1.65	.58	1.42	.61	1.63	.68
Practice Regularly	1.80	.63	1.80	.70	2.42	1.17	2.63	.96
Naturally Better	2.45	1.28	2.00	.86	1.89	.99	1.63	.68
Love Music	1.90	.92	2.00	1.03	2.05	1.17	2.32	1.38
Social	2.55	1.28	3.05	1.28	2.63	1.21	2.53	1.26
Teacher	2.53	.91	2.70	1.26	2.58	1.12	2.53	1.12
Expectations	3.30	1.26	3.15	1.27	2.89	1.10	3.00	1.45
Parents	3.90	1.45	3.65	1.42	3.50	1.54	3.11	1.63

Table 5. Results of Repeated Measures ANOVAs for each Questionnaire Item Comparing Mean Pretreatment versus Posttreatment Responses for the Experimental and Control Groups

Questionnaire Question	Degrees of Freedom	Mean Square	F value	Significance
Practice Frequency	1	1.050	.901	.349
Scales at Home	1	.000	.000	1.000
New Ways to Practice	1	.013	.012	.912
Like Playing	1	.118	.324	.573
Better Player	1	.329	.763	.388
Improve Skills	1	.211	.306	.583
Best of Ability	1	.842	1.623	.211
Practice Regularly	1	.211	.263	.611
Naturally Better	1	2.579	2.657	.112
Love Music	1	.474	.333	.567
Social	1	1.316	.754	.391
Teacher	1	.474	.445	.509
Expectations	1	.211	.108	.745
Parents	1	1.411	.590	.448

Discussion

The purpose of this study was to investigate the effects of deliberate play activities on middle school students' scale performance, self-reported practice behaviors, and attribution. Two classes practiced scales as part of their normal warm-up routine, while the remaining two classes replaced the normal scale activities with deliberate play scale games. As expected, students' performance scores increased over time, similar to many other studies where performance scores were found to improve with practice (Cash, 2009; Miksza et al., 2012; Simmons, 2006). Interestingly, there was no significant difference in performance scores between treatment and control groups, indicating students learned during the deliberate play scale games. Perhaps the deliberate play students learned in part due to the repetitions required as part of the games, similar to the way the control group learned the scales through the more traditional repetition-based deliberate practice. Alternately, the scale games could have created a contextual interference (CI) scenario. CI occurs when motor skills are refined during the adjustments required by different practice scenarios (Brady, 1998; Wu et al., 2011), just as someone learning to ride a bike will overcorrect as they learn to balance at different speeds and on different surfaces. Because the students were repeating the scales in a slightly different manner each time, the games required many adjustments to different practice settings. Thus, the games should have set up a CI scenario. Further research should be completed over a longer period of time to see if students exhibit the expected rapid gain in skills later in the practice sessions that is associated with CI.

In addition to the weekly scale tests, students filled out a questionnaire on practice behavior, sources of motivation, and attribution at the beginning and end of the study. Other research into issues of independence and motivation has indicated that students who are more independent often report higher levels of motivation for basic tasks (Côté, 1999; Ericsson, Nandagopal, & Roring, 2009; Schatt, 2011). The deliberate play scale games were designed to encourage student independence by turning into student-led activities. The games also encouraged students to watch and react quickly to the leader, two essential skills for musical independence. Thus, the deliberate play scale games should have increased student independence, which would have resulted in higher levels of motivation. However, there were no significant differences in sources of motivation or attribution statements after treatment. As the games were designed to incorporate several new ways of playing scales and increase enjoyment, I expected to see changes in self-reported practice behavior. However, the timeline of the study may not have been long enough to see behavioral changes. Future researchers in this area might use interview and/or observational techniques and a longer time frame to see if behavior changes were present before students become cognizant of the change.

Limitations

Due to limited time and resources, this study had a smaller number of participants than originally planned. This study was also limited by a four-week time length. Ideally, each participant would be measured under both treatment and control conditions, which means the participants would only have two weeks for each scenario. Since two weeks would likely not be long enough to see a difference in behavior, each group remained under the same treatment or control condition for the entire study. Thus, these results should not be generalized to a larger population before further research can be completed with a more representative group over a longer period of time. However, teachers from similarly sized schools and/or programs may find the information useful for their students.

Conclusion

Because there were no significant differences between treatment and control groups, it appears that the students who played the scale games did gain skills at a rate similar to those observed with traditional practice. One of the teachers did indicate that the students enjoyed the games, and they might continue to use the games in the future. Although there were no significant differences regarding questions that were completed at the beginning versus the end of the experiment, the study was probably not long enough to detect changes in behavior or attitude. Researchers could use observational investigations to determine how student-teacher interactions and student independence is impacted by the scale games. If students can enjoy learning scales, then they should be more willing to practice them. Improved scale performance would enable performance of new types of music for individuals and large ensembles, which could foster an individual passion for music. Because passion for music has been identified as a motivation source for students and experts (Hentschke, 2010; Miksza, 2010; O'Neill & McPherson, 2002), educators should consider including scale games or other deliberate play activities as a valid way for students to learn and develop their passion for music.

References

- Brady, F. (1998). A theoretical and empirical review of the contextual interference effect and the learning of motor skills. *Quest*, 50(3), 266-293. doi: 10.1080/00336297.1998.10484285
- Cash, C. D. (2009). Effects of early and late rest intervals on performance and overnight consolidation of a keyboard sequence. *Journal of Research in Music Education*, 57(3), 252-266. doi: 10.1177/0022429409343470
- Côté, J. (1999). The Influence of the family in the development of talent in sport. *The Sport Psychologist*, 13, 395-417.

- Côté, J., Baker, J., & Abernethy, B. (2007). Practice and play in the development of sport expertise. In R. Eklund & G. Tenenbaum (Eds.), *Handbook of Sport Psychology* (Third ed., pp. 184-202). Hoboken, NJ: Wiley.
- Côté, J., Lidor, R., & Hackfort, D. (2009). ISSP position stand: To sample or to specialize? Seven postulates about youth sport activities that lead to continued participation and elite performance. *International Journal of Sport and Exercise Psychology*, 7(1), 7-17.
- Duke, R. A., Simmons, A. L., & Cash, C. (2009). It's not how much; it's how: Characteristics of practice behavior and retention of performance skills. *Journal of Research in Music Education*, 56(4), 310-321. doi: 10.1177/0022429408328851
- Ericsson, K. A., Krampe, R. T., & Tesch-Romer, C. (1993). The Role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363-406. <http://dx.doi.org/10.1037/0033-295X.100.3.363>
- Ericsson, K. A., Nandagopal, K., & Roring, R. W. (2009). Toward a science of exceptional achievement: attaining superior performance through deliberate practice. [Research Support, Non-U.S. Gov't Review]. *Annals of the New York Academy of Sciences*, 1172, 199-217. doi: 10.1196/annals.1393.001
- Hentschke, L. (2010). Students' motivation to study music: The Brazilian context. *Research Studies in Music Education*, 32(2), 139-154. doi: 10.1177/1321103x10386674
- Hewitt, M. (2001). The Effects of modeling, self-evaluation, and self-listening on junior high instrumentalists' music performance and practice attitude. *Journal of Research in Music Education*, 49(4), 307-322. doi:10.2307/3345614
- Hewitt, M. (2005). Self-evaluation accuracy among high school and middle school instrumentalists. *Journal of Research in Music Education*, 53(2), 148-161. doi: 10.1177/002242940505300205
- Lordo, J. L. (2015). *Expertise development in musicians: The Roles of deliberate play and deliberate practice*. Doctor of Philosophy in Learning, Teaching, and Curriculum Dissertation, University of Missouri, Columbia.
- Memmert, D., Baker, J., & Bertsch, C. (2010). Play and practice in the development of sport-specific creativity in team ball sports. *High Ability Studies*, 21(1), 3-18. doi: 10.1080/13598139.2010.488083
- Miksza, P. (2010). Relationships among achievement goal motivation, impulsivity, and the music practice of collegiate brass and woodwind players. *Psychology of Music*, 39(1), 50-67. doi: 10.1177/0305735610361996
- Miksza, P. (2011). A Review of research on practicing: Summary and synthesis of the extant research with implications for a new theoretical orientation. *Bulletin of the Council for Research in Music Education*, 190, 51-92.
- Miksza, P., Prichard, S., & Sorbo, D. (2012). An Observational study of intermediate band students' self-regulated practice behaviors. *Journal of Research in Music Education*, 60(3), 254-266. doi: 10.1177/0022429412455201
- O'Neill, S., & McPherson, G. (2002). Motivation. In R. Parncutt & G. McPherson (Eds.), *The Science and Psychology of Music Performance: Creative Strategies for Teaching and Learning* (pp. 31-46). New York: Oxford University Press.
- Oare, S. (2012). Decisions made in the practice room: A Qualitative study of middle school students' thought processes while practicing. *Update: Applications of Research in Music Education*, 30(2), 63-70. doi: 10.1177/8755123312437051

- Pesce, C., Masci, I., Marchetti, R., Vazou, S., Sääkslahti, A., & Tomporowski, P. D. (2016). Deliberate play and preparation jointly benefit motor and cognitive development: Mediated and moderated effects. *Frontiers in Psychology*, 7, 1-18. doi: 10.3389/fpsyg.2016.00349
- Schatt, M. D. (2011). High school instrumental music students' attitudes and beliefs regarding practice: An application of attribution theory. *Update: Applications of Research in Music Education*, 29(2), 29-40. doi: 10.1177/8755123310396981
- Simmons, A. L., & Duke, R. (2006). Effects of sleep on performance of a keyboard melody. *Journal of Research in Music Education*, 54(3), 257-269. doi: 10.1177/002242940605400308
- Soccio, A. (2013). The Relation of culture and musical play: A Literature review. *Update: Applications of Research in Music Education*, 32(1), 52-58. doi: 10.1177/8755123313502340
- Stambaugh, L. A. (2010). When repetition isn't the best practice strategy: Effects of blocked and random practice schedules. *Journal of Research in Music Education*, 58(4), 368-383. doi: 10.1177/0022429410385945
- Tarnowski, S. M. (1999). Musical play and young children. *Music Educators Journal*, 86(1), 26-29. doi: 10.2307/3345848
- Vallerand, R., & Rousseau, F. (2001). Intrinsic and extrinsic motivation in sport and exercise: A Review using the hierarchical model of intrinsic and extrinsic motivation. *Handbook of Sport Psychology*, 2, 389-416.
- Whiteman, P. (2009). Type, function, and musical features of preschool children's spontaneous songs. In P. S. Campbell, M. Robin & L. Thompson (Eds.), *Research Perspectives: Thought and Practice in Music Education* (pp. 37-62): Information Age Publishing.
- Wu, W. F., Young, D. E., Schandler, S. L., Meir, G., Judy, R. L., Perez, J., & Cohen, M. J. (2011). Contextual interference and augmented feedback: is there an additive effect for motor learning? [Comparative Study Research Support, N.I.H., Extramural]. *Human Movement Science*, 30(6), 1092-1101. doi: 10.1016/j.humov.2011.02.004

Appendix A: Scale Activities**Scale Games**

With a metronome playing for the group, the goal is to play the scale up and back down without a mistake. But, you have to watch your leader!

Stop & Go – You can only play when the “GO” sign is up. To make the group stop, flip the sign to the “STOP” side. Optional: have people stop playing when they make a mistake, to see who can last the longest.

Pick a Number – Similar to “Simon Says,” you play up the scale to the scale degree being held up and stop. Keep going when the leader gives you permission (thumbs up).

Skipping Steps – Play the scale, but skip (mime) the scale degree that the leader holds up. Optional: hold up multiple numbers so students have to mime more than one scale degree for each scale.

Pick a rhythm/articulation – Draw a rhythm/articulation card from the stack. The group plays the scale with that rhythm/articulation.

Play & Mime – When the “PLAY” sign is up, play the notes. When the leader switches to the “MIME” sign, pretend to play your instrument. Optional: have people stop playing when they make a mistake, to see who can last the longest.

Appendix B: Musical Instrument Practice Questionnaire

Name: _____ Instrument: _____

Musical Instrument Practice Questionnaire**Please circle one answer to the following questions.**

1) How long have you been playing your band/orchestra instrument?

Less than 1 year 1 year 2 years 3 or more years

2) Do you play any other instruments?

No Yes, I play the _____

3) Do you sing in a choir?

Yes No

These questions only refer to the instrument you play in band/orchestra.
Please circle answers for what you do on your band/orchestra instrument,
even if you play another instrument.

4) How often do you practice?

Never Rarely (less than
1 time per week) Sometimes (1-2
times per week) Often (4-5
times per
week) All the time (5
or more times
per week)

5) Do you take private lessons?

Yes No I used to for ____ months or ____ years

6) Do you play scales outside of class?

Never Rarely (less than
1 time per week) Sometimes (1-2
times per week) Often (4-5
times per
week) All the time (5
or more times
per week)

7) Do you try new ways to practice?

Never Rarely (less than
1 time per week) Sometimes (1-2
times per week) Often (4-5
times per
week) All the time (5
or more times
per week)

Read each sentence. Circle your answer to indicate how well it describes you.

8) I like playing my instrument

Strongly Agree Agree Undecided Disagree Strongly Disagree

9) Practice helps me become a better player.

Strongly Agree Agree Undecided Disagree Strongly Disagree

10) I improve my musical skills through practice.

Strongly Agree Agree Undecided Disagree Strongly Disagree

11) I play my instrument to the best of my ability.

Strongly Agree Agree Undecided Disagree Strongly Disagree

12) I play my best when I practice regularly.

Strongly Agree Agree Undecided Disagree Strongly Disagree

13) Some people are just naturally better at playing instruments than others.

Strongly Agree Agree Undecided Disagree Strongly Disagree

14) I play in band/orchestra because I love music.

Strongly Agree Agree Undecided Disagree Strongly Disagree

15) I play in band/orchestra because I like to be with my friends.

Strongly Agree Agree Undecided Disagree Strongly Disagree

16) I play in band/orchestra because I like my teacher.

Strongly Agree Agree Undecided Disagree Strongly Disagree

17) I play in band/orchestra because people expect that of me.

Strongly Agree Agree Undecided Disagree Strongly Disagree

18) I play in band/orchestra because my parents make me.

Strongly Agree Agree Undecided Disagree Strongly Disagree

Choral Directors Facebook Group: A Content Analysis of Social Media Interactions

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Opportunities provided by usage of the Internet have allowed for the development of virtual communities that meet the needs of individuals professionally and socially. In this study, I examined postings (n = 113) and related comments (n = 841) of vocal music educators within an online social media community, the Choral Directors Facebook group. Three overarching categories emerged: (a) Curricular (n = 379), (b) Co-curricular (n = 421), and (c) Community (n = 154). Each category was then further analyzed for emerging sub-categories. Comments related to repertoire selection (71%) were the most frequent sub-category of Curriculum. Co-curricular postings made up the largest percentage of content (57.0%), with classroom management (14.5%) being the most frequent sub-category of interest followed closely by motivation and team building (14.2%). Community postings revealed the need for professional support and motivation from fellow directors. Results were discussed in terms of implications for teacher preparation: preservice music educator socialization via virtual community, virtual professional development, and mentor/mentee relationships.

Teachers originally hesitated to integrate computers into the classroom because of feeling inadequately informed about how to effectively use technology in the classroom (Bauer, 1999). As the computer training opportunities have increased, music teachers more successfully integrated technology into their classroom and personal development (Bauer & Daugherty, 2001; Bauer, Reese, & McAllister, 2003). "A Beginning Guide to the Internet" in the *Music Educators Journal* (McAdams & Nelson, 1995) was one of the earliest articles to present the usefulness of the Internet to the music education community. The authors shared the process of developing email accounts, accessing resource sites for music teachers, and listing different discussion groups according to interest. Some of those early online communities included: (a) film music, (b) classical music, (c) popular music, (d) bluegrass music, (e) ethnomusicology, (f) clarinet discussion, (g) horn discussion, (h) choral music, and (i) music education discussion. Lysloff (2003) conducted an ethnographic study focusing on the culture of online music communities and the sense of contextual reality among Internet participants. She wrote, "It is clear that the Internet provides fascinating possibilities for social networks, especially for innovative new uses of current technology, and for collective and collaborative artistic creativity" (p. 258).

Technology has changed the way that people communicate and approach the classroom/learning experience. Waldron (2013) explored the teaching and

learning of an online banjo community. She collected data through interactions via Skype, forum posts, and emails that revealed the success of learning and strong sense of community that are provided in virtual settings. Reese (2015) applied these same modes of communication as a means of expanding preservice observations into the virtual realm. These researchers identified technological failures and scheduling as two emerging challenges for participants in the virtual world (Reese, 2015; Waldron, 2013).

Technology as a tool for diversifying music learning opportunities has also been explored. Interactive computer games have shown positive learning outcomes in the classroom (Becker, 2017). Paney and Kay (2015) studied the vocal pitch accuracy of third grade students while interacting with a music computer game. Pitch accuracy was assessed in real time by a tracking line on the computer monitor. A tracking line indicated the accuracy of a student's singing with the correct pitch of a melody. Students responded positively, with an approximate 10% increase in pitch matching accuracy as they progressed through the project. Orman (2003), through the use of virtual reality, compared physical and psychological responses to both live and virtual reality performances of students playing saxophone. She concluded that the body responded similarly in both situations with an increased heart rate. Psychologically, student responses also supported the feeling of an actual performance. Orman concluded that the use of virtual reality has the potential to provide a safe, nonconsequential environment for authentic and experiential learning. The use of virtual reality could provide benefits in creating a consistent duplicable scenario avoiding the complexities of reality in soliciting an audience for individual performances, or attending an urban classroom from remote sites.

The Internet has been researched for how to instruct students, but has become a resource for many teachers when reaching out to the professional community for mentorship (Bell-Robertson, 2014; Fahy, 2006; Koc, 2012; Reese, 2015; 2016; 2017). Frequently, music teachers are the only professional within their field in their school building. In smaller or more rural districts, they may be the only music educator in their district. This can present challenges such as feeling isolated, not being understood, and experiencing a lack of meaningful resources (Dake, 2012). As a response, teachers have turned to the Internet and virtual communities as resources.

Teacher educators are also utilizing virtual conferencing technology to facilitate field experiences and mentoring experiences for preservice educators (Israel, Knowlton, Griswold, & Rowland, 2009; Kent & Simpson, 2010; Reese, 2015). Although mentoring interactions often occur in face-to-face contexts, virtual interactions are becoming more common (Reese, 2017). Face-to-face and virtual interactions between mentors and mentees were found to have similar results of topics and interactions. Those being mentored through technology found this process to be beneficial for their individual growth and perceived contribution to the profession (Enz, Weber, & Campopiano, 2000). Alternatively, teachers are able to access thousands of videos by searching the term "music education" (Whitaker, Orman, & Yarbrough, 2014), if they desire to seek information via the

Internet without interpersonal interactions. Over 64% of videos were exemplars of performances and teaching, and 65% of teaching videos were tutorials. The researchers concluded that quality of internet teaching could be inconsistent; regardless, possibilities of observing, extracting information, and responsively adjusting one's teaching as a form of professional development does exist.

Bauer (1999) found that music teachers were not only using the Internet for personal reasons but, more specifically, for opportunities to grow as professionals. Professional development of both traditional classroom teachers and music educators has been researched frequently (Conway, 2003; Conway, et al., 2005a; Conway, et al., 2005b; Clement & Vadenberghe, 2000; Hammel, 2007; Hookey, 2001; McCotter, 2001; Schuler, 1995). Hookey (2001) asked, "What are the purposes and consequences of professional development experiences, and in what ways are the teachers individually or collectively implicated in their professional development?" (p. 898). Respondents' answers varied drastically inside and outside of the music classroom. Some topics related to pedagogy, classroom management, technology, and working within administrative logistics. Hammel (2007) reflected on the task of effective communication with administration in providing what was deemed appropriate, or fruitful, professional development for music teachers, and concluded by challenging music educators to find other avenues for professional development. The difficulty of finding applicable professional development opportunities for music educators heightens with the recognition that different types of development are needed for those in different stages of their careers (Conway, 2008).

Communities of Practice

The Internet has afforded the educational community a new outlet for support and professional growth (Byington, 2011; Kent & Leaver 2014). Wenger (1998) identified this type of interaction as a Community of Practice – a group of people with common interests and goals who learn from one another. Blankenship and Ruona (2007) compared three different Communities of Practice models in five different areas: theory base, membership, leadership, organizational culture, and knowledge sharing (see Table 1).

Table 1. Comparison of Characteristics of Communities of Practice (CoPs) Models (Blankenship & Ruona, 2007)

Model	Theory Base	Membership	Leadership	Organizational Culture	Knowledge Sharing
Brown & Duguid (CoPs)	Situated Cognition, Social Learning	Membership is voluntary; informal group of workers doing the same job	Informal structure; the community is egalitarian in nature	Culture is not necessarily supportive of informal structures	Narrative; collaborative; socially constructed; occurs within community
Wenger, McDermott & Snyder (CoPs)	Social Learning	Participation is voluntary; membership can either be self-selected or assigned by the organization; based on expertise or passion for a topic	Distributed; leadership comes from both formal and informal leaders, within and outside the community	Organization values innovation and knowledge sharing;	Occurs mainly within the community; however, exchange across and at community boundaries occurs when appropriate
Saint-Onge & Wallace (CoPs)	Knowledge Management	Voluntary participation; self-selected or assigned by the organization; communities may center around work type or strategic need	Provided by both members and management	Supportive of CoPs; nurtures level of trust and relationships so that collaboration can occur	Knowledge is accessed, created and shared within community; organization supports community networks to share across communities

Communities of Practice using technology, especially the Internet, have been examined and found to have positive impacts on groups such as band (Brewer & Rickels, 2014), orchestra (Palmquest & Barnes, 2015), new teachers (Bell-Robertson, 2014), and music education graduate students (Bauer & Daugherty, 2001). The Wenger, McDermott, and Snyder Community of Practice model (2002) indicates that three characteristics must be represented to be considered a viable Community of Practice: domain, community, and practice. Domain is defined as a common place where people gather to share ideas, knowledge, experience, and create a sense of belonging (i.e., the Facebook page). Community was defined as a group of individuals that create value through discussion with contribution and possible debate (i.e., respondents on the Choral Facebook page). Practice was defined as a shared topic of interest that requires a specific knowledge base (i.e., choral music). The Wenger, McDermott, and Snyder model has been examined in music education settings and found to be a good fit (Brewer

& Rickels, 2014; Palmquist & Barnes, 2015). A band directors' Facebook group was studied as an exemplar of this type of community (Brewer & Rickels, 2014). The researchers conducted a content analysis of the interactions of music educators on a band directors' Facebook group, identifying 54 emerging themes. Palmquist and Barnes (2015) also conducted a content analysis of the school and string teachers group for topics and frequency of exchange as an online community of practice. No studies were found that examined the content of a choral directors' Facebook Community of Practice.

The purpose of this study was to conduct a content analysis of a sampling dataset from a Facebook group of choral directors hosted in the southwest region of the United States. Emerging categories were examined in order to identify topical implications for teacher preparation and representation of the professional community. Data were also explored for confirmation of the Choral Directors Facebook group as a viable Community of Practice.

Method

The Choral Directors Facebook group (pseudonym used to comply with IRB requirements) was founded in February 2013 and has continued to increase in membership. The professional disposition of the group was guided by the advertised group purpose stating, "Choir directors sharing funny moments, encouragement and inspiration! No solicitations, politics or negative vibes!"

Forums such the Choral Directors Facebook group reflect streaming commentary; therefore, quantity of interactions can vary. Also, posts do not always appear in chronological order. If a reflective comment is shared, the original post is then reordered higher in the queue and can happen at any point regardless of the original date of posting. In an attempt to collect one full month of representative data, posts and connected comments were extracted from the Choral Directors Facebook group over the period of two months. Posts and comments/responses ($N = 954$), not including collection of the Like contributions, were copied and pasted into a Microsoft Word document for stable archiving. Replicated data were removed and remaining data were transferred into a spreadsheet for coding and analysis. Category and topic lists from previous research were used as starting points for possible codes: travel, budget, recruitment, parent relationships, employment, scheduling (Bauer & Moehle, 2008), curricular, co-curricular, and community (Brewer & Rickels, 2014). Additional codes emerged specific to this data set.

As in the Brewer and Rickels' (2014) content analysis of a band directors' Facebook group, comments were first analyzed and coded into three large categories of Curricular, Co-curricular, and Community. Curricular codes were any comments relating directly to teaching students, such as selecting music and teaching methods. Co-curricular codes were facets of teaching indirectly related to the learning process, but essential to the program and school, such as classroom management and choral trips (Bauer & Moehle, 2008). Community codes were those that included "social interaction between group members that were

independent of content connection represented by Curricular or Co-curricular codes” (Brewer & Rickels, 2014, p. 10). The researcher made the assumption that any associated comments below original postings were directly related to the respective post and that any new topics appearing in the comments were a sub-category (Brewer & Rickels, 2014; Palmquist & Barnes, 2015). Data were then examined to determine if the Choral Director Facebook group met domain, community, and practice characteristics of a Community of Practice as specified by Wenger, McDermott, and Snyder (2002). All coding was evaluated by a panel of experts ($N = 4$; a mean of fourteen years of teaching experience) through group discussion until a consensus was reached, resulting in a 100% agreement (Degroot, 1974; Killian, Liu & Reid, 2013). For example, if a comment could possibly be classified into more than one category, the panel of experts discussed which category would be most appropriate until a consensus was reached. Therefore, each comment was classified into only a single category.

Results

Collected data are a representative sampling of postings and comments from the 1,908 member Choral Directors’ Facebook group. All collected postings and associated comments ($N = 954$) were analyzed. Original postings ($N = 113$) were divided into three emerging categories: Community ($n = 28$; 24.8%), Co-curricular ($n = 56$; 49.5%), and Curricular ($n = 29$; 25.7%).

The Co-curricular category, posts that indirectly related to the learning process, but were essential to the program and school, had the highest percentage (49.5%) of postings. The Curricular category, posts that related directly to teaching, had the second highest percentage (25.7%), followed closely by the Community category (24.8%). Each responding comment ($N = 841$) was then additionally coded for emerging sub-categories within the three main categories. Responses to comments such as *Likes* or *emoji* that were not listed as a message were not recorded nor analyzed. The coding results appear in Table 2 and Table 3.

Table 2. Community, Co-curricular, & Curricular Breakdowns

	Total Responses (Initial + Responding)		Initial Postings		Responses/ Comments	
	<i>N</i>		<i>n</i>	%	<i>n</i>	%
Co-curricular	421		56	49.5	365	43.4
Curricular	379		29	25.7	350	41.62
Community	154		28	24.8	126	14.98
Totals	954		113		841	

Table 3. Community, Co-curricular, & Curricular Emerging Themes (Responses not equaling 100% due to rounding)

Response/Comment Sub-categories			
	Code	n	%
Co-curricular	Classroom Management	53	14.5
	Motivation/ Team Building	52	14.2
	Clinicians	38	10.4
	Uniforms	36	9.9
	Budget	35	9.6
	Accompanist /Tracks	32	8.8
	Boosters / Parents	27	7.7
	Classroom Setup	23	6.3
	Recruitment	17	4.7
	Honor Ensembles/Logistics	15	4.1
	Choreography / Staging	14	3.8
	Music / Copies	13	3.6
	Employment	4	.10
	Pre/Post Concert Activities	3	.80
	Scheduling	2	.60
	Travel	1	.30
Curricular	Repertoire	254	72.5
	Inquiries about Specific Strategies	41	11.7
	Theoretical Discussion	35	10
	Curriculum Development	10	2.9
	Specific Strategies	10	2.9
Community	Inspirational Teacher	77	61.1
	Information Sharing	41	32.5
	Humor	8	6.3

Examination of comments ($n = 126$; 14.98%), responses to the original posts, in the Community category yielded three emerging sub-categories. Inspirational Teacher comments ($n = 77$) had the highest representation (61.1%). “Dear colleagues, thank you all for filling this page up with so much encouragement, inspiration and ideas. This group has really exploded over the last year and I hope that continues...” is a common exemplar of these comments. Information Sharing comments ($n = 41$) followed at 32.5%. The third emerging topic, humor ($n = 8$), represented 6.3% of the responses.

The Co-curricular category responses ($n = 365$; 43.4%) yielded sixteen emerging topics. Classroom Management ($n = 53$) yielded 14.5% of the comments. Motivation/Team Building comments ($n = 52$) followed closely at 14.2%. The next three most frequently mentioned topics were budget ($n = 35$; 9.6%), uniforms ($n = 36$; 9.9%), and clinicians ($n = 38$; 10.4%). Accompanist/Tracks comments ($n = 32$) followed closely at 8.8%. Boosters/Parents ($n = 27$) represented 7.7% of the comments, and 6.3% of the comments related to the topic of classroom setup ($n = 23$). Seven additional emerging topics ranged between 5% and 0.1%.

Responses ($n = 350$; 41.62%) in the curricular category generated five emerging topics. Repertoire-related comments ($n = 254$) were the most frequently mentioned topic area at 72.5%. These were most often in response to postings such as “Favorite middle school men’s choir festival pieces in TTB or TB? Thanks!” The second highest percentage of responses was related to inquiries about specific strategies (11.4%; $n = 41$). Theoretical discussion ($n = 35$) comments followed closely behind at 10%. Specific strategies comments ($n = 10$; 2.9%) differed from inquiries about specific strategies due to the initiation of presenting a strategy or idea in a sharing manner as exemplified by this comment:

Okay guys. A little over one week before contest and I've tried everything. What are your solutions for that one soprano that just doesn't blend? She's a confident singer and her pitches are accurate...but she sticking out like a purple zebra. She is a German foreign exchange student and I just cannot get her vowels to match. Help? Suggestions??

The final emerging sub-category from the responses was curriculum development (2.9%, $n = 10$).

Discussion

Conclusions should be interpreted with caution. These data, although representative, are only a small window into a growing online community. The timing of the data collection, early in the academic year, may also be a factor and likely influenced the discussion topics.

Posts

Similar to Brewer and Rickels (2014), Facebook posts were divided into three categories: Curricular—those relating directly to teaching; Co-curricular—those related indirectly to the teaching process, but important to the success of the program; and Community—those that relate to the social aspect of the group and are not classified as Curricular or Co-curricular. The Co-curricular category had the highest frequency of postings (49.5%). This was contrary to the earlier studies of Bauer and Moehle (2008) and Palmquist and Barnes (2015) where curricular subject matter (i.e., literature) was the main topic of discussion. The ratio of posts and responses (1:6) in the Co-curricular category were unique as compared to the ratio of posts and responses (1:2) of choir directors on an online Community of Practice Music Educators National Conference forum examined by Brewer and Moehle (2008). Many of the initial comments in this category were in the form of inquiries or requests for assistance rather than statements of sharing. It is plausible that the frequency of postings in this category could be attributed to related topics covered in university methods courses, but done so in an introductory or surface manner (Chandler, 2012). It is also possible that some sub-categories, such as classroom management, which had the highest percentage of Co-curricular comments (14.5%), can be discussed in a theoretical manner in university settings, but take on a new level of meaning when observed in the classroom setting.

Posts and related responses also revealed a strong sense of community. The Community and Curricular posts were mentioned almost in equal numbers. These results of the Community category, similar to the findings in Rickels and Brewer (2014), allude to the importance of maintaining an open virtual community to assist with the needs of fellow directors as people in and out of the classroom. It is also feasible that this type of community could be a resource for meeting the needs of directors, as concluded by Dake (2012), who feel isolated from other professionals such as those located in rural areas.

Comments/Responses

When analyzing comments related to the original posts, categorical trends were similar to Brewer and Rickels (2014), in which more comments were found in the Co-curricular category followed by the number of comments associated in the Curricular category). When comparing the percentages of comments/responses associated with the original post (Curricular post: 26%, Co-curricular post: 50%), the Curricular and Co-curricular categories grew almost equal in their representation (Curricular post: 42%, Co-curricular post: 43%). The number and types of comments in both categories could be due to several reasons. Anecdotally, many of the Co-curricular topics may be only addressed with breadth versus depth in choral methods courses (Chandler, 2012). This is not to criticize the curriculum, but to recognize the amount of material that must be covered in a short period of time. Talking about teaching theories in class, implementing them into a controlled peer teaching environment, and applying them into actual classrooms is a process of development; as individual events, they do not yield an equal outcome of knowledge and application. An exemplar conveyed in this data set relates to the difficulty of finding quality accompanists and/or accompaniment recordings. Another possible reason for the large number of post/comments in the Curricular category could be related to new literature being released. This conclusion would be consistent with the analysis of the band and orchestra directors Facebook pages (Palmquist & Barnes, 2015; Rickels & Brewer, 2014).

Accompanist/Tracks was a sub-category unique to this study. Based on the post and comments, it is a topic that merits further investigation - the need to identify good accompanists, and how to find them. Although the discussion of what qualities a director looks for in a good accompanist should probably be a part undergraduate choral methods curriculum, based on the analyzed comments, the complexity of finding "a good one" and what that means realistically was a challenge for many who commented on the Choral Directors Facebook group. Meanwhile, many of the Curricular issues (i.e., repertoire and teaching techniques) are directly represented in many of the texts used for choral methods courses (Brinson & Demorest, 2014; Collins, 1999; Demorest, 2001; Freer, 2009; Phillips, 2004).

Responses related to the Community category occurred much less frequently, but still seemed to convey an important need for the Choral Directors Facebook

group. When searching the responses related to the Co-curricular and Community categories, I found they represented a majority of the total analyzed comments. The fact that over half of the dataset represents the exchange of information that could help another's classroom success and uplift fellow colleagues emotionally substantiates the mentorship attributes of this community. This was confirmed through anecdotal evidence. A Choral Director Facebook group member revealed to me in a conversation that one can feel comfortable in asking questions without feeling inept or vulnerable. It also gives access to those with perspectives from all levels-including novice teachers-possibly going through the same experiences to those that have taught for years. The online group takes away a barrier and provides a Community of Practice that reaches beyond individual schools, districts, or even states.

Community of Practice

Based on Wenger, McDermott, and Snyder (2002), three areas were needed to qualify the Choral Directors Facebook group as a Community of Practice: domain, community, and practice. Analyzed data represented all areas to qualify this group as a Community of Practice. Domain was demonstrated through the commonality of the group as a consistent forum for the community. Community and Practice were emphasized through the discourse of the members in a value-added manner in three major emerging categories: Curricular, Co-curricular, and Community. The Choral Director Facebook group appeared to be a productive Community of Practice. According to non-solicited responses when presenting at a poster session, this type of community allows one's professional guard to be relaxed and allows for opportunity for continued growth. As is the nature of Communities of Practice, there are no intended outcomes, all of which can vary considerably. Research supports the idea that teachers at different parts of their careers need different types of professional development (Conway, 2003, 2008; Krueger, 2001). Due to the range of topics, the community appeared to be meeting needs of teachers across a wide spectrum of experience. Examining the different levels of teachers/professionals and their perceived growth from this community merits further research.

Lock (2006) concluded that one must be deliberate in designing environments that foster a learning culture. She further reflected that emphasis should not be on the technology, but on the establishment of relationships and trust to emphasize a "safe zone" of learning and professional growth. Similar to the conclusion reached by Rickels and Brewer (2014), the data conveyed in Community category supports this group as a community which encourages a safe zone for learning and sharing at all levels of the profession. The longevity and fruitfulness of the Choral Directors Facebook group illustrates a level of success in that it avoids the common challenges related to the perception of professionalism and lack of topic diversity (De Waal & Khumisi, 2016). The encouragement of professional disposition within the group was guided by an advertised purpose: "Choir directors sharing funny moments, encouragement and inspiration! No

solicitations, politics or negative vibes!” The exemplar of diverse topics can be acknowledged in the resulting 24 sub-categories of data. However, further research is needed to examine the longevity of the group, assimilation of new members, and the activity of the membership.

Implications for Teacher Preparation

Implications for teacher preparation focus on two main areas: (a) implementing Communities of Practice into teacher preparation programs to develop occupational identity, and (b) the possible utilization of Co-curricular topics as mentioned in the Choral Directors Facebook group posts/comments as a means to guide preservice teachers in classroom/rehearsal observations and mentor conversations.

Preservice teachers, for the most part, strive to grow as young professionals and yearn for a connection to the aspired professional world. The importance of authentic contextual experience, mentors, and peer influences on professional identity development has been widely researched (Haston & Russell, 2012; Isbell, 2008; Wenger, 1998). Reese (2017) concluded that similar interactions could occur in virtual communities. This current study further substantiates her findings with exemplars of peers celebrating the advancements of their colleagues and their students as well as providing emotional and practical support. Occupational identity as a music educator consists of three major constructs: (a) identity as a musician, (b) self-perceived teacher identity, and (c) teacher identity as inferred by others (Isbell, 2008). Connections to these constructs can be drawn from the extracted postings and comments in the Choral Directors Facebook group. The initial joining of the group supports self-identification as teacher and musician; therefore, the perceived identity support by other members is a natural progression. The data further supports a positive social connection between members. Past research validates the connection of these types of positive interactions in assisting with developing one’s identity as a teacher (Isbell, 2008). Communities such as the Choral Directors Facebook group could provide a virtual space for creating mentor/mentee relationships that could potentially lead to interactions about authentic contextual experiences in the classroom (Haston & Russell, 2012). Exploration of Communities of Practice as a means of assisting the development of preservice music educator’s identity merits further formal investigation.

A collaborative atmosphere, possibly guided by the emerging topics found in the co-curricular category of this study, could help preservice educators in applying ideas in theoretical discussion into practice (Walls & Samuels, 2011). Furthermore, the co-curricular sub-categories, such as budget, classroom management, uniforms, classroom setup, and motivation, could be used as topics for purposeful discussions between mentors and mentees during teacher preparation. Facebook communities, such as the examined Choral Directors Facebook group, are also a possible venue to support effective mentor/mentee relationships.

Future Research

As technology develops, its integration and application in teacher preparation changes. Future research is needed to track how the use of these different technology impacts the field. As a result of this study, more information is needed on the development and quality of mentor/mentee relationship in virtual Communities of Practice. Does the perception of anonymity in these communities change the process and outcomes of the mentor/mentee relationship? What are the limitations of this type of community? How does the virtual community compare to face-to-face Communities of Practice? Although the Internet allows us to cross land barriers with ease, do teaching expectations/outcomes related to those physical areas force defined borders in the virtual realm? The “language” associated with virtually communities’ looks different. Verbal responses are declining and the use of emojis as a formal response are increasing (Rickels & Brewer, 2017). Will this change effect communication between mentors and mentees?

The world of technology and how people relate to each other is also changing. Communities of Practice share goals of support, development, and growth of individuals with common interests. The use of online communities can help teacher preparation programs meet the evolving needs and expectations related to these changes.

References

- Bauer, W. (1999). Music educators and the Internet. *Contributions to Music Education*, 26(2), 51-63.
- Bauer, W. I., & Daugherty, J. F. (2001). Using the Internet to enhance music teacher education. *Journal of Music Teacher Education*, 11, 27-32. doi: 10.1177/105708370101100106
- Bauer, W. I., & Moehle, M. (2008). A content analysis of the MENC discussion forums. *Bulletin of the Council for Research in Music Education*, 175, 71-84. Retrieved from <http://www.jstor.org/stable/40319414>
- Bauer, W. I., Reese, S., & McAllister, P. A. (2003). Transforming music teaching via technology: The role of professional development. *Journal of Research in Music Education*, 51(4), 289-301. doi: 10.2307/3345656
- Becker, K. (2017). Choosing and using games in the classroom: A practical guide. doi:10.1007/978-3-319-12223-6
- Bell-Robertson, C. (2104). “Staying on our feet”: Novice music teachers’ sharing of emotions and experiences within an online community. *Journal of Research in Music Education*, 61(4), 431-451. doi: 10.1177/0022429413508410
- Blankenship, S., & Ruona, W. (2007). *Professional learning communities and communities of practice: A comparison of models, literature review*. Paper presented at the Academy of Human Resource Development International Research Conference in The Americas, Indianapolis, IN.
- Brewer, W., & Rickels, D. A. (2014). A content analysis of social media interactions in the Facebook band directors group. *Bulletin of the Council for Research in Music Education*, 201, 7-22. doi: 10.5406/bulcouresmusedu.201.0007

- Brinson, B. & Demorest, S. (2014). *Choral music: Methods and materials* (2nd ed.). Belmont, CA: Schirmer, Cengage Learning.
- Brown, J.S., & Duguid, P. (1991). Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. *Organization Science*, 2(1), 40-57. doi: 10.1287/orsc.2.1.40
- Byington, T. (2011). Communities of practice: Using blogs to increase collaboration. *Intervention in School and Clinic*, 46(5), 280-291. doi: 10.1177/1053451210395384
- Chandler, K. W. (2012). A survey of choral methods instructors at NASM-accredited institutions: Pedagogical content knowledge orientation and the choral methods class (Order No. 3527275). Available from ProQuest Dissertations & Theses Global.
- Clement, M., & Vandenberghe, R. (2000). Teachers' professional development: A solitary or collegial (ad)venture? *Teaching and Teacher Education*, 16(1), 81-101. doi: [https://doi.org/10.1016/S0742-051X\(99\)00051-7](https://doi.org/10.1016/S0742-051X(99)00051-7)
- Collins, D. L. (1999). *Teaching choral music*. Pearson College Division.
- Conway, C. M. (2003). Ongoing professional development. In C. M. Conway (Ed.), *Great beginnings for music teachers: Mentoring and supporting new teachers* (pp. 151-166). Reston, VA: MENC.
- Conway, C. M., Albert, D., Hibbard, S. & Hourigan, R. (2005a). Arts education and professional development. *Arts Education Policy Review*, 107(1), 3-9. doi: 10.3200/AEPR.107.1.3-10
- Conway, C. M., Albert, D., Hibbard, S., & Hourigan, R. (2005b). Voices of music teachers regarding professional development. *Arts Education Policy Review*, 107(1), 11-14. doi: 10.3200/AEPR.107.1.11-14
- Conway, C. (2008). Experienced music teachers' perception of professional development throughout their careers. *Bulletin of the Council for Research in Music Education*, 176, 7-18.
- Dake, B. (2012). *A qualitative analysis of rural music educator role development* (Research paper). Northwest Missouri State University, Maryville, MO.
- Degroot, M.H. (1974). Theory and method: Reaching a consensus. *Journal of the American Statistical Association*, 69, 118-121. doi: 10.2307/2285509
- Demorest, S. M. (2001). *Building choral excellence: Teaching sight-singing in the choral rehearsal*. Oxford University Press.
- De Waal, M., & Khumisi, O. (2016). Supporting communities of practice: a reflection on the benefits and challenges facing communities of practice for research and engagement in nursing. *Gateways: International Journal of Community Research and Engagement*, 9(1), 58-73. doi: <http://dx.doi.org/10.5130/ijcre.v9i1.4717>
- Enz, B. J., Weber, K. R., Campopiano, R. D. (2000). The distinguished teacher. In Steffy, B. E., Wolfe, M. P., Pasch, S. H., Enz, B. J. (Eds.), *Life cycle of the career teacher* (pp. 85-95). Thousand Oaks, CA: Corwin Press.
- Fahy, P. J. (2006). Online and face-to-face group interaction processes compared using Bales' Interaction Process Analysis (IPA). *European Journal of Open, Distance, and E-learning*, 1. Retrieved from http://www.eurodl.org/materials/contrib/2006/Patrick_J_Fahy.htm
- Freer, P. K. (2009). *Getting started with middle school chorus*. R & L Education.
- Hammel, A. (2007). Professional development research in general education. *Journal of Music Teacher Education*, 17(1), 22-32. doi: 10.1177/10570837070170010106
- Haston, W., & Russell, J. (2012). Turning into teachers: Influences of authentic context learning experiences on occupational identity development of preservice teachers. *Journal of Research in Music Education*, 59(4), 369-392. doi: 10.1177/0022429411414716

- Hookey, M. (2001). Professional development. In R. Colwell & C.P. Richardson (Eds.), *The new handbook of music teaching and learning* (pp. 887–904). New York: Oxford University Press.
- Isbell, D. (2008). Musicians and teacher: The socialization and occupational identity of preservice music teachers. *Journal of Research in Music Education*, 56(2), 162-178. doi: 10.1177/0022429408322853
- Israel, M., Knowlton, E., Griswold, D., & Rowland, A. (2009). Applications of videoconferencing technology in special education teacher preparation. *Journal of Special Education Technology*, 24(1), 15-25. doi: 10.1177/016264340902400102
- Kent, M., & Leaver, T. (2014). *An education in Facebook: Higher education and the world's largest social network*. Routledge, Florence, KY.
- Kent, A. M., Simpson, J. L. (2010). Interactive videoconferencing: Connecting theory to practice for preservice teachers. *Journal of Digital Learning in Teacher Education*, 27(1), 12-21.
- Killian, J.N., Liu, J. & Reid, J. (April, 2013). *Journal of Music Teacher Education: A content analysis of articles 1991-2011*. *Journal of Music Teacher Education*, 22(2), 85-99. doi: 10.1177/1057083712467637
- Koc, E. M. (2012). Idiographic roles of cooperating teachers as mentors in pre-service distance teacher education. *Teaching and Teacher Education*, 28, 818-826. doi: 10.1016/j.tate.2012.03.007
- Krueger, P. (2001). Reflections of beginning music teachers. *Music Educators Journal*, 88(3), 51-54. doi: 10.2307/3399759
- Lock, J. (2006). A new image: Online communities to facilitate teacher professional development. *Journal of Technology and Teacher Education*, 14(4), 663-678.
- Lysloff, R. (2003). Musical community on the Internet: An on-line ethnography. *Cultural Anthropology*, 18(2), 233-263. doi: 10.1525/can.2003.18.2.233
- McAdams, C. A., & Nelson, M. A. (1995). A beginner's guide to the Internet. *Music Educators Journal*, 82(1), 17-24. doi: 10.2307/3398880
- McCotter, S. (2001). Collaborative groups as professional development. *Teaching and Teacher Education*, 17(6), 685–704. doi: 10.1016/S0742-051X(01)00024-5
- Orman, E. K. (2003). Effect of virtual reality graded exposure on heart rate and self-reported anxiety levels of performing saxophonists. *Journal of Research in Music Education*, 51, 302-315. doi: 10.2307/3345657
- Palmquist, J. E., & Barnes, G. V. (2015). Participation in the school orchestra and string teachers Facebook v2 group: An online community of practice. *International Journal of Community Music*, 8, 93-103. doi: 10.1386/ijcm.8.1.93_1
- Paney, A. S., & Kay, A. C. (2015). Developing singing in third-grade music classrooms: The effect of a concurrent-feedback computer game on pitch-matching skills. *Update: Applications of Research in Music Education*, 34, 42-49. doi: 10.1177/8755123314548047
- Phillips, K. H. (2004). *Directing the choral music program*. Oxford University Press, USA.
- Reese, J. A. (2015). Online status: Virtual field experiences and mentoring during an elementary general music methods course. *Journal of Music Teacher Education*, 24, 23-39. doi: 10.1177/1057083713506119
- Reese, J. A. (2016). Virtual mentoring of preservice teachers: Mentors' perceptions. *Journal of Music Teacher Education*, 25(3), 39-52. doi: 10.1177/1057083715577793
- Reese, J. A. (2017). An exploration of interactions between virtual mentors and preservice teachers. *Contributions to Music Education*, 42, 201-221.

- Rickels, D., & Brewer, W. (2017). Facebook band director's group: Member usage and perceived satisfaction for meeting professional development needs. *Journal of Music Teacher Education*, 26(3), 77-92. doi: 10.1177/1057083717692380
- Saint-Onge, H., & Wallace, D. (2003). *Leveraging communities of practice for strategic advantage*. Boston: Butterworth-Heinemann.
- Schuler, S. C. (1995). The impact of the national standards on the preparation, in-service professional development, and assessment of music teachers. *Arts Education Policy Review*, 96(3), 2-14. doi: 10.1080/10632913.1995.9934544
- Waldron, J. (2013). YouTube, fanvids, forums, vlogs and blogs: Informal music learning in a convergent on- and offline music community. *International Journal of Music Education*, 31, 91-105. doi: 10.1177/0255761411434861
- Walls, K., & Samuels, S. (2011). Collaborative design process for authentic preservice music teacher observations. *Journal of Music Teacher Education*, 20(2), 24-39. doi: 10.1177/1057083710371426
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.
- Wenger, E., Mc Dermott, R., & Synder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston: Harvard Business School.
- Whitaker, J. A., Orman, E. K., & Yarbrough, C. (2014). Characteristics of "music education" videos posted on Youtube. *Update: Applications of Research in Music Education*, 33, 49-56. doi: 10.1177/8755123314540662

Effects of Differing Content Knowledge Types on Perceptions of Novices' Rehearsal Effectiveness: An Exploratory Study

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The purpose of this study was to compare the effects of direct instruction in content knowledge (i.e., CK, or music score knowledge) and pedagogical content knowledge (i.e., PCK, or lesson planning) on novices' rehearsal effectiveness and knowledge of the score. Twenty undergraduate music majors led a 5-minute rehearsal on their assigned excerpt. One week prior to their rehearsal, participants were led by the author in one of two preparation activities. Those in the CK group (n = 10) prepared by thoroughly studying the score, whereas PCK group (n = 10) participants focused their preparations on written rehearsal strategies. No significant differences were found between conditions for any of several dependent measures, including participants' self-evaluation of their rehearsal, ensemble members' evaluations of the conductors, and experts' evaluations of the conductors' rehearsal effectiveness and of conductor score knowledge. Conductors' written responses suggested that nerves affected their nonverbal and verbal conducting behaviors. However, participants indicated they felt prepared to rehearse, regardless of their preparation method.

Introduction

The concept of teacher knowledge types was introduced by Shulman (1986) as an answer to the perceived lack of focus on subject matter, or what he and his colleagues called a 'missing paradigm' (p.6) in teaching and teacher education research. He labeled the unique paradigm in which teachers work within their content area as pedagogical content knowledge (PCK). Since the introduction of Shulman's teaching framework, scholars in different educational fields have furthered Shulman's initial conception and claim that PCK includes knowledge about what teachers need to know and how that applies to the practice of teaching (Ball, 2000; Ball, Hill, & Bass, 2005; Ball, Thames, & Phelps, 2008; Lee, Brown, Luft, & Roehrig, 2007; Silverman & Thompson, 2008). Music education researchers have used PCK as an effective tool to investigate effective teaching and learning (Bauer, 2013; Chandler, 2012; Duling, 1992; Forrester, 2015; Gohlke, 1994; Haston & Leon-Guerrero, 2008; Millican, 2008; Raiber & Teachout, 2014; Venesile, 2011). Even though studies in PCK in music are becoming more widespread, little research has investigated PCK in rehearsal preparation.

Content Knowledge

Once Shulman's concept of teacher knowledge became a popular topic of investigation in education, many scholars focused specifically on the importance of content knowledge (CK). CK can be defined as items related to factual knowledge of a specific discipline, including performance and decision-making components of musicianship (Millican, 2008; Shulman, 1987). Possession of strong CK is considered an important criterion of teacher effectiveness (Kaplan & Owings, 2002; Okpala & Ellis, 2005).

Research findings have indicated that teachers need to understand their content deeply to be successful (Ball, Hill, & Bass, 2005; Kennedy, 1998). Without appropriate CK, teachers may struggle to help students learn (Ball & McDiarmid, 1990; Snow, 1998). Hill, Ball, & Schilling (2008) categorized CK into three groups: common CK, specialized CK, and mathematical knowledge. Common CK was described as the basic skills known by most adults, whereas specialized CK was described as knowledge of the content specifically needed for educators to teach (Ball, Thames, & Phelps, 2008). In other words, teachers should not only know if the student is correct or incorrect, they should know how and why a student makes an error. This, of course, requires in-depth knowledge of content.

Although CK is important to teaching, knowledge alone does not necessarily indicate that a teacher will be successful in conveying their knowledge to students (Loughran, Berry, & Mulhall, 2012). Phelps and Schilling (2004) developed a measurement tool to test CK in reading. Their findings suggested that phonemes, that is, the distinct sound that distinguish one word from another, are not enough to guarantee success in learning how to read or spell and posited that teaching reading includes multiple dimensions. Researchers have also suggested that there are many kinds of knowledge that go into understanding specific content, and this can lead to difficulties in understanding how to teach the subject (Ball, Lubienski, & Mewborn, 2001; Begle, 1979; Phelps & Schilling, 2004). Similarly, while a good music performer might also be able to help their students perform at a high level, this may not be the case due to an inability to teach performing to their students.

Researchers have sought to understand different components of CK in music education. Investigations regarding score study have helped uncover how experts and novices internalize music (Lane, 2006; Silvey, Springer, & Eubanks, 2015; Silvey, Montemayor, & Baumgartner, 2017) and how CK affects novices' rehearsals preparation skills (Silvey & Montemayor, 2014). Overwhelmingly, these findings have indicated that, although score study may look different amongst conductors, score study is vital when preparing to lead a rehearsal.

CK necessary for leading an ensemble could be described as the technical knowledge required for conducting or studying a musical score. These could include kinesthetic skills (e.g., beat pattern, gestural technique), conceptual knowledge of the musical score (e.g., identification of melody, counter melody, accompaniment, and bass line), knowledge of instruments (Millican, 2016b), and

error detection and correction (Forrester, 2015; Green & Gibson, 2004; Hunsberger & Ernst, 1992; Labuta, 2010). Nevertheless, strong CK may not be enough for music teachers to be successful and should be combined with expertise in developing teaching procedures and strategies for the classroom, commonly known as PCK.

Pedagogical Content Knowledge

PCK is rooted in the idea that teaching requires more than delivering CK to students. Shulman (1987) defined PCK as "... the category most likely to distinguish the understanding of the content specialist from that of the pedagogue" (p. 8). Ballantyne and Packer (2004) defined music PCK as "knowledge of music teaching techniques, engaging students with music in a meaningful way, implementing the music curriculum effectively, assessing students' abilities in the various aspects of music and explaining and demonstrating musical concepts" (p. 302). PCK is the idea of *how* to teach, whereas CK is the *what* to teach. For example, if you know a trumpet player is playing an A flat instead of a written A natural, that is CK. However, if the teacher understands that students are more likely to play the seventh scale degree incorrectly in a B-flat major scale, and that information helps the student understand how a major scale works is can be considered PCK.

Researchers have recently expanded components of Shulman's initial conceptualization of CK and PCK by discipline. Some researchers have examined PCK more specifically in science (Kind, 2009; Magnusson, Krajcik, & Borko, 1999; Loughran, Berry, & Mulhall, 2012), math (Ball, 1993; Borko & Livingston, 1989; Depaepe, Verschaffel, & Kelchtermans, 2013), and music (Haston & Leon-Guerrero, 2008; Millican, 2013, 2016a, 2016b). Through these investigations three general areas of teacher knowledge have been identified, which include pedagogical knowledge, content knowledge, and knowledge of context (Grossman, 1990). These three areas are combined into PCK and are mentioned as having a strong influence on teachers' knowledge bases in various research studies (Beijaard, Verloop, & Vermunt, 2000; Kennedy, 2010; Lee, 2011). The aforementioned factors have helped researchers better explain the function of PCK in the classroom, including why teachers make decisions in sequencing of lessons, addressing difficulties in the content to students, and describing how they teach their courses.

Since the initial investigation of PCK in the late 1980s, researchers-especially in science and mathematics education-have explored specific components of PCK. Research findings have indicated that effective teachers have knowledge of student interests (Hill, Schilling, & Ball, 2004; Ball, Thames, & Phelps, 2008), common difficulties in the content (Tamir, 1988; Koehler & Mishra, 2009), specific strategies to teach concepts within a discipline (Magnusson, Krajcik, & Borko, 1999; Rowan, Schilling, Ball, Miller, Atkins-Burnett, & Camburn, 2001), appropriate sequencing of instruction (Hill, Ball, & Schilling, 2008), typical student error and misunderstandings of content

(Hill, Ball, & Schilling, 2008), and how teachers interpret student work and performances (Ball, Bass, Hill, & Schilling, 2005; Hill, Ball, & Schilling, 2008). These concepts have helped clarify the importance of PCK in teacher education and elucidate what preservice teachers need to understand about pedagogy.

Music education researchers have investigated the importance of PCK and its impact on teacher delivery (Millican, 2012; Raiber & Teachout, 2014). Millican (2013) applied Shulman's PCK framework to explore beginning band directors' thought processes. Four experienced band directors identified elements of PCK while viewing videotaped performances of beginning band students. The most commonly observed elements by these band directors were (a) mental image/modeling, (b) understanding the outcomes of the manipulation of variables to positively effect student performance, (c) gathering and interpreting specific data to interpret student work, developing specific rules, procedures, and guidelines to help students master principles of performance, and (d) making specific rules, procedures, and guidelines. Forrester (2015) interviewed four experienced band directors and suggested that instrumental music teaching demands a specialized form of knowledge that integrates teaching and conducting, rather than the teaching of these two concepts independently. Similar to Millican (2013), this knowledge is used for in-the-moment decision-making, judgments, decisions, and communication with students and the ensemble as a whole.

Although rehearsal preparation has been investigated extensively (Conway, 2002; Lane, 2010; Lane & Talbert, 2015; Millican, 2013; Montemayor, Silvey, Adams, & Witt, 2016; Silvey & Montemayor, 2014), there are often too many variables to study at one time; therefore, researchers have investigated individual techniques such as how lesson planning (Brittin, 2005; Lane & Talbert, 2015; Schmidt, 2005), music score study (Lane, 2006; Silvey & Montemayor, 2014; Silvey, Montemayor, & Baumgartner, 2017), conducting skills (Forrester, 2015; Manfredo, 2008; Silvey, 2011), and pedagogical content knowledge (Ballantyne & Packer, 2004; Haston & Leon-Guerrero, 2008; Millican, 2009, 2016a) influence preservice music teachers' preparation.

Research findings involving preservice music teachers' conducting, score knowledge, lesson planning, and preservice rehearsal effectiveness have indicated that musical CK is important for preservice teachers' rehearsal preparation (Brittin, 2005; Lane, 2006; Montemayor & Moss, 2009; Schmidt, 2005; Silvey & Montemayor, 2014; Silvey, Montemayor, & Baumgartner, 2017). However, few studies involving how PCK effects preservice teachers' rehearsal preparation exist in the music education literature, perhaps because scholars have only recently investigated what defines CK in music education (Emerich, 2015; Millican, 2013, 2016b). Although researchers have explored teacher knowledge of experienced band directors (Emerich, 2015; Forrester, 2015; Millican, 2013; 2016b), few investigators have explored novice teachers' understanding and use of CK and PCK during rehearsal preparation.

Therefore, the purpose of this study was to compare the effects of explicit instruction in CK (music score knowledge) and PCK (lesson planning) on novices' rehearsal effectiveness and knowledge of the score. I explored whether

novices' rehearsals would be judged differently based upon two different methods of preparation. How would novices who focused their rehearsal preparation on typical score study methodologies (CK) differ from those whose preparation also included specific rehearsal strategies (PCK)?

Method

Participants

Conductors. Twenty instrumental music majors (10 freshmen and 10 sophomores) at a large Midwestern university served as primary participants for this study. I solicited volunteers through announcements in band and orchestra rehearsals, visits to undergraduate music courses, and e-mail correspondence. I sought volunteers who had not taken score study or conducting, rehearsal technique, or advanced music education courses. To ensure that participants felt capable leading an ensemble, volunteers were asked to report confidence in their ability to perform basic conducting patterns as prerequisite for participation. I confirmed this with each participant as part of the IRB recruitment procedures.

Performers. Additional participants included musicians ($N = 40$) who performed in a band that the study participants conducted. I gathered volunteers by visiting ensemble rehearsals and through individual invitations. The band was composed of undergraduate ($n = 13$) and graduate ($n = 7$) music majors, as well as non-music majors ($n = 20$), all who played either their primary or secondary instrument. The instrumentation of the ensemble was complete, with mostly one performer per part. (The conducting participants did not play in the ensemble.)

Expert Evaluators. Graduate students enrolled in a large Midwestern university ($N = 3$) also participated in this study and served as rehearsal evaluators. Their average years of teaching experience was 15.33 ($SD = 2.08$). Each evaluator was asked to report his or her degree classification (master, $n = 1$; doctorate, $n = 2$) and emphasis area (conducting, $n = 1$; music education, $n = 2$).

Rehearsal Preparation

Participants ($N = 20$) were randomly divided into two groups of ten. Each group received a separate 2-hour rehearsal preparation instructional period one week prior to their rehearsal. For both groups, the first half hour of each lesson was dedicated to learning about basic conducting techniques, while the next half hour was dedicated to basic score study, as none of the conducting participants in this study had previous conducting or score study experience. The final hour was dedicated to the experimental treatment, either intensive score study practice (CK) or rehearsal techniques (PCK). The first hour of activities was organized in the same chronological order. The remaining hour was specific to either of the two individual experimental groups (see Appendix A for the lesson plan).

I labeled the first experimental group the content knowledge (CK) group because the rehearsal preparation procedures used were focused exclusively on

score study and the development of an aural image of the music, often considered the most important prerequisite for leading an ensemble rehearsal (Battisti & Garofalo, 1993; Green & Gibson, 2004; Labuta, 2010). The first 30 minutes of the session was focused on basic conducting techniques and was followed by 30 minutes of score orientation and discussion about score marking. During the final hour of their session, the following activities took place during the CK group score study session: (a) identified important music lines, such as the melody; (b) marked specific music material in their scores, such as meter changes, dynamics, and unfamiliar terms; (c) listened several times to a professional recording of their excerpt while following the score and/or practicing conducting gestures; (d) repeatedly sang individual melodic lines; and (e) engaged in silent score study. These methods were adopted from previous research investigations and expert conductors' score study suggestions (Battisti & Garofalo, 1993; Hunsberger, 1988; Silvey & Montemayor, 2014). At the end of the session, participants were reminded to prepare for their rehearsal by using the same strategies they had been shown during the preparation session. Each participant was required to show me their score three days prior to their rehearsal so that I could ensure they had marked and studied the score as previously discussed.

The participants in the second group, which I labeled the pedagogical content knowledge (PCK) group, completed the same preparation tasks during the first hour as did the CK group participants. During the last hour of the session, I led discussion and practice activities on the following: (a) modeling—singing how you want the part to go; (b) instructional sequencing; (c) feedback delivery; and (d) contextualizing the rehearsal. During the lesson, participants watched video examples of expert conductors who demonstrated the previously-mentioned rehearsal techniques. After each video, participants practiced, in small groups, by writing or using each strategy with a piece of music that was comparable to their assigned excerpt. PCK group participants were asked to write four specific rehearsal strategies for their rehearsal and to continue preparing individually by studying the score and determining how to incorporate their written strategies into their rehearsal. Each participant was required to show me their written rehearsal strategies three days prior to their rehearsal. See appendix A for a complete lesson plan of activities and procedures used for each session.

Rehearsal Episodes

As in previous research studies involving novices' rehearsals, a five-minute rehearsal time was used (Lane, 2010; Lane & Talbert, 2015). Five-minute rehearsal times were chosen as to allow all the participants' rehearsals to occur on a single day. Furthermore, shorter rehearsal episodes likely seemed less overwhelming for novices who were preparing to conduct their first-ever rehearsal. Lessons were scheduled at seven-minute intervals and participants were not in the room during other conductors' rehearsals. Before the rehearsals began, I instructed the ensemble members to avoid talking, using electronic devices, or engaging in any off-task behavior so that participants could focus without

distractions. The ensemble was also told to follow and respond to the participants conducting and verbal instructions precisely. After 10 participants had completed their rehearsals, a short 10-minute break was given to members of the ensemble.

I monitored the start and stop times of each rehearsal using a digital stopwatch on an Apple *iPad*. Each rehearsal began with a verbal cue to the participants that indicated the start time (i.e., “You may start now”). After three minutes had elapsed, I provided a nonverbal cue indicating that two minutes remained (2 fingers held in the air). Another cue was given with one-minute remaining (1 finger held in the air). Participants were stopped with a verbal cue at the end of the five-minute rehearsal (i.e., “Your time is up”). During these rehearsal episodes, participants completed their planned rehearsal using techniques in the group sessions.

Music Selection

Pieces were selected from Volumes 1–6 of the *Teaching Music Through Performance in Band* series (Miles, 1997–2007) and represented high-quality, standard band repertoire. The ten chosen pieces were listed at a grade 2 (of 6) difficulty level, appropriate for a typical middle school band. Ten contrasting excerpts were chosen to provide variety and to decrease the opportunity for the ensemble to improve with multiple performances. Within each piece, I identified approximately one minute of music for participants to study and rehearse. Similar to procedures used in prior studies (Montemayor & Moss, 2009; Silvey & Montemayor, 2014), excerpts began and ended at logical points in the music and consisted of full ensemble playing. The randomly assigned music selections used in this study were: (1) *As Torrents in Summer* arranged by Albert O. Davis, (2) *Flourish for Wind Band* by Ralph Vaughn Williams, (3) *Down Country Lane* by Aaron Copland, (4) *Llwyn Onn* by Brian Hogg, (5) *Mini-Suite, Movement One* by Morton Gould, (6) *Polly Oliver* by Thomas Root, (7) *Rites of Tamburo* by Robert W. Smith, (8) *Sonatina for Band* by Frank Erickson, (9) *They Led My Lord Away* arranged by Fred J. Allen, and (10) *When the Stars Began to Fall* arranged by Fred J. Allen.

Data Collection

Three different sets of data were collected in this study: (a) ensemble members’ evaluations of the conductors, (b) conductors’ self-evaluations, and (c) experts’ evaluations of the conductors. During the time between each five-minute rehearsal, ensemble members were asked to rate the conductor’s score knowledge and the conductor’s rehearsal effectiveness using a Likert-type scale anchored by 1 (*low*) and 10 (*high*). The ensemble members were blind to participants’ assigned experimental condition. The conductors then completed self-evaluations immediately following their own rehearsal. Conductors were asked to rate themselves using the same Likert-type scale as the ensemble members. Similar to procedures used by Montemayor and Moss (2009), the

conductors were asked the following three free-response questions: (1) How prepared did you feel to lead the rehearsal? Why?; (2) What were the strongest aspects of your rehearsal? Why?; and (3) What were the weakest aspects of your rehearsal? Why?

A *Kodak EIS* digital video recorder was used to record each rehearsal. All rehearsal episodes (a total of 100 minutes) were randomly arranged on three DVDs in three different orders to help control for possible order effects. I provided a separate DVD to three graduate students who were enrolled in music education or conducting programs. Similar to the ensemble members, the three graduate students were unaware of any experimental assignments. Using the same Likert-type scale as the ensemble and conductors, these experts were asked to evaluate each conductor's score knowledge and rehearsal effectiveness.

Results

One week prior to the rehearsals I met with each group for separate 2-hour sessions. The first hour of each treatment was identical, in which we discussed and had activities on basic beat patterns, reading of a musical score, and score marking. The second hour of the CK group session was complete with discussions and activities on score study, as well as time for silent study. The PCK group's session discussion and activities on modeling, sequencing, feedback and contextualization. Participants used the knowledge taught in the sessions to conduct five-minute rehearsals of their randomly assigned piece of music.

Conductors Self-Evaluation

I calculated the means and standard deviations of the novice conductors' two numerical evaluations of themselves, namely score knowledge and rehearsal effectiveness. All conductor self-evaluation scores were slightly higher for the PCK group (score knowledge, $M = 8.30$, $SD = 1.06$; rehearsal effectiveness, $M = 6.80$, $SD = 1.93$) than for the CK group (score knowledge, $M = 6.90$, $SD = 1.85$; rehearsal effectiveness, $M = 6.20$, $SD = 1.99$). Due to the small number of conductors in each group ($n = 10$), I used a Mann-Whitney U test to analyze differences between the PCK and CK groups. No significant differences between experimental conditions were found in the conductors' evaluations of their own score knowledge, $U = 27.0$, $p = .073$, $r = .06$, or rehearsal effectiveness, $U = 48.5$, $p = .908$, $r = .03$.

Ensembles Members Evaluation

I also calculated the means and standard deviations of the ensemble members' two numerical evaluations of the conductors' score knowledge and rehearsal effectiveness. All evaluation scores that were assigned by the ensemble members were slightly higher for the PCK group than the CK group. The highest score was the evaluation of score knowledge in the PCK group, $M = 6.93$

($SD = 1.98$), and the lowest evaluation score was for the CK group's rehearsal effectiveness, $M = 5.83$ ($SD = 2.13$). See Table 1 for a list of complete means for all evaluations. I conducted separate one-way analyses of variance tests (ANOVA) for the ensemble members' evaluations of conductors' score knowledge and rehearsal effectiveness. No significant differences between experimental conditions were found for the ensemble members' evaluation of conductor score knowledge, $F(1, 18) = 1.220$, $p = .284$, $\eta^2 = .06$, or rehearsal effectiveness, $F(1, 18) = .717$, $p = .408$, $\eta^2 = .04$.

Table 1. Means (and Standard Deviations) of Numerical Rehearsal Evaluations

Evaluations	Rehearsal
Conductor self-evaluation of Rehearsal Effectiveness	
CK Group	8.20 (1.99)
PCK Group	6.80 (1.93)
Conductor self-evaluation of Score Knowledge	
CK Group	6.90 (1.85)
PCK Group	8.30 (1.06)
Ensemble member evaluation of Conductor Rehearsal Effectiveness	
CK Group	5.83 (2.13)
PCK Group	6.29 (2.27)
Ensemble member evaluation of Conductor Score Knowledge	
CK Group	6.43 (2.05)
PCK Group	6.93 (1.98)
Expert evaluation of Conductor Rehearsal Effectiveness	
CK Group	3.23 (2.01)
PCK Group	3.87 (2.03)
Expert evaluation of Conductor Score Knowledge	
CK Group	4.33 (2.04)
PCK Group	4.97 (2.03)

Note: All ratings are on a 10-point scale from 1 (low) to 10 (high).

Conductor's Written Comments

Following each rehearsal, conductors were asked to answer three free-response questions: (1) How prepared did you feel to lead the rehearsal? Why?; (2) What were the strongest aspects of your rehearsal? Why?; and (3) What were the weakest aspects of your rehearsal? Why? To analyze these comments, I adopted coding procedures in my categorization of participants' written comments similar to those used in prior investigations (Price & Mann, 2011; Silvey 2011; Silvey & Fisher, 2015). Coded comments ($N = 76$) were organized by category (preparation, conducting knowledge, or rehearsal technique), group (CK and PCK), and direction (positive or negative). Two reliability observers analyzed the free-response data to identify categories with a 91% agreement. Any disagreements regarding the data were resolved through discussion until consensus was achieved (Denzin & Lincoln, 2005). This resulted in two

preparation, two conducting knowledge, and five rehearsal technique subcategories. All responses appear in Table 2.

Table 2. Categorization of Conductors' Comments for CK and PCK Conditions

Category	CK Group			PCK Group		
	Pos	Neg	Σ%	Pos	Neg	Σ%
Preparation						
Felt Prepared	6	1	18.9	10	3	33.3
Nervous	0	8	21.6	0	7	17.9
Conducting Knowledge						
Conducting	3	2	13.5	1	3	10.3
Score Study	4	0	10.8	4	0	10.3
Rehearsal Technique						
Eye Contact	1	2	8.1	0	1	2.6
Sequencing/pacing	1	0	2.7	3	0	7.7
Comfort with Rehearsing	0	5	13.5	0	0	0.0
Modeling	1	0	2.7	2	1	7.7
Feedback/Clarity of instruction	0	3	8.1	3	1	10.3
Σ	16	21		23	16	
Σ%	43.2	56.8	100	59.0	41.0	100

Note: Pos = positive; Neg = negative. Σ% = sum of percentages

Participants in the CK group commented more negatively (56.6%) than positively (43.2%) to the three questions asked, whereas the PCK group wrote more positive (59.0%) than negative (41.0%) comments. The most frequent negative comments that appeared in both the CK and PCK groups were in reference to how nervous they were (21.6% and 17.9%, respectively). Members of the CK group most often commented on their conducting (13.5%). The PCK group said they felt more prepared for their rehearsal than the CK group (33.3% versus 18.9%, respectively).

Most of the participants (16 out of 20) responded that they felt prepared to lead their rehearsal. Examples of these comments included “I felt prepared because I read through the score a lot and listened to different bands play it,” and “I was very prepared because I was at the point musically where I could feel the music go by, and not just watch it.” Nevertheless, many students also wrote that nerves got in their way. One example included, “I felt relatively prepared for the rehearsal, and then you walk in and see 40 eyes looking back at you, and it all goes down the drain...”

Several participants in the CK group ($n = 6$) reported that they felt prepared during their score preparation, but not when they began rehearsing the ensemble. One conductor wrote “Generally, I felt underprepared. While I know a lot about the score and had listened to the piece, I was unsure of how to lead a rehearsal. I wasn’t sure what to focus on, how to speak, etc.” (emphasis by the participant).

Another wrote that “I didn’t feel very prepared because I knew how to find the key components of the score, but I wasn’t sure how to get the point across.” Unlike some members of the CK group, the PCK group wrote more positively about their rehearsal techniques. For example, “I think I was able to model well and have them play exactly what I wanted,” “I feel like I was doing sequencing okay, separating the melody from the bass line and checking that balance,” and “I was pretty specific on what I wanted. I kept the rehearsal going so we get more done.”

Expert Evaluations

To determine whether the rehearsal would be evaluated differently based upon the conductors’ preparation method, I asked three graduate students to evaluate the score knowledge and rehearsal effectiveness of the 20 conductors’ videotaped rehearsals on a 10-point Likert-type rating scale anchored by *low* (1) and *high* (10). Reliability, as calculated by the average measure intraclass correlation coefficient, was acceptable at .79 (Cohen, 1988). As with the conductors’ self-evaluations, I used a Mann-Whitney U test to compare results for both the score knowledge and rehearsal effectiveness variables. There were no significant differences between experimental conditions found in the conductors’ evaluations of their own score knowledge, $U = 258.5, p = .171, r = .25$, or rehearsal effectiveness, $U = 360.0, p = .178, r = .25$.

Discussion

The purpose of this study was to compare the effects of CK (score knowledge) versus PCK (written rehearsal techniques) on novices’ rehearsal effectiveness and score knowledge. No significant differences were found for either of the dependent measures, regardless of whether those ratings were assigned by the participants, ensemble members, or experts.

The nature of conductors’ written comments regarding their rehearsal preparedness and teaching effectiveness were slightly different for each method of preparation. For example, participants in the PCK group tended to be more positive about their rehearsal, whereas the CK group were more negative. That the participants who used a combination of rehearsal techniques and score study, rather than score study alone, felt more positively may suggest a combination of score study and rehearsal techniques being taught to preservice teachers simultaneously would be helpful. Even with a short amount of time to prepare, many of the participants indicated they felt prepared to rehearse the ensemble. As expected, members of the CK group more often cited they felt prepared with score study, whereas more PCK participants indicated they felt prepared to rehearse the ensemble. Introducing PCK (e.g., rehearsal techniques, lesson planning) and CK (e.g., score study, conducting gestures) in university courses could help improve preservice teachers’ ability to rehearse more effectively. As Silvey and Montemayor (2014) suggested, perhaps teacher

educators should develop novice teachers' overall rehearsal and conducting skills in a "holistic manner" (p. 172).

Participants were freshman and sophomore instrumental music majors who conducted a brief rehearsal, a methodology similar to previous studies in this area (Montemayor, Silvey, Adams, & Witt, 2016; Lane, 2010; Lane & Talbert, 2015). Even though the participants in this study were novices, I chose not to provide specific feedback on their preparation activities after the experimental treatments. Anecdotally, it seemed some of the students put more effort in preparing for the rehearsal, which could account for participants' written comments being more negative or positive. Although I believe that each participant was capable of rehearsing the group, it is likely that more experience with conducting or rehearsal technique courses would have helped students to prepare better for these rehearsals. Additionally, novice teachers may require more individualized guidance in preparing for the difficult task of rehearsing a group of advanced musicians. Future researchers might consider studies that involve multiple rehearsals and provide some feedback to the participants prior to each rehearsal, similar to other investigations (Lane, 2010; Lane & Talbert, 2015).

Conductors' written responses suggested that nerves affected their conducting. If the participants had led multiple rehearsals, perhaps they would have been less nervous rehearsing, possibly leading to higher evaluation scores. Considering that secondary music teacher educators often cite a lack of podium time as negatively affecting undergraduate conducting skill development (Romines, 2003), professors might try to design courses that give their students more frequent conducting opportunities with both CK and PCK components. This could include partnerships with local schools where students are required to score study and have planned rehearsal techniques in advance, or more opportunities to learn about conducting, score study, and rehearsal strategies and apply these techniques in their music courses.

Limitations

This study should be considered an exploratory investigation for several reasons. First, it included a small convenience sample of undergraduate music majors. Most participants were freshman and sophomores that I had taught in courses or knew personally. Second, the single rehearsal episode seemed to hinder the conductors' confidence level, as self-reported in their short answer responses. Third, it is possible that I, as the teacher, could have had an influence on the groups. Still, I attempted to minimize this by designing the lessons to be interactive, informative, and utilized research and practitioner suggestions. An instrumental music education professor also evaluated the lesson plan to ensure that activities were specific to either the CK or PCK group. Likewise, group effects should be considered a possible limitation for this study. It is possible that I simply taught basic conducting and score orientation better during the second session. Nevertheless, I tried to minimize the effects by (a) randomly assigning the participants to the groups, (b) randomly assigning which group's session was

taught first, and (c) having identical lesson plans for the first hour of each session. Perhaps with more frequent or longer rehearsals, a clearer understanding of the effects of these experimental groups could be developed. However, these findings may help researchers influence novice music teachers during their initial teacher experiences. Future researchers might consider studies that include a greater number of participants from multiple institutions.

There is much evidence that CK and PCK development helps expand preservice music teachers' ability to understand how to lead a rehearsal (Ballantyne & Packer, 2004; Emerich, 2015; Millican, 2016a); however, more pedagogues should consider using Shulman's (1987) PCK and CK frameworks to further understand how to help preservice music teachers prepare for rehearsals. Even though PCK studies in music education are becoming more widespread, many aspects of how musical CK is taught are still not fully understood. Although Millican (2013, 2016a) investigated how expert and preservice teachers described PCK, little is still known about how these paradigms are used in novices' rehearsal preparation. Since novice teachers do understand PCK skills but lack the guidance on how to effectively convey their ideas during a rehearsal, it may also be difficult to separate these two components when instructing preservice teachers. In other words, it may be unrealistic to separate lesson planning and score study. While there are many variables that affect preservice teachers' rehearsal skills, the continued exploration of PCK, and how it relates to novice teachers' skill development, might be a useful framework for helping music teacher educators increase preservice teachers' rehearsal efficacy.

References

- Ball, D. L. (1993). With an eye on the mathematical horizon: Dilemmas of teaching elementary school mathematics. *The Elementary School Journal*, 93(4), 373–397. doi:10.1086/461730
- Ball, D. L. (2000). Bridging practices intertwining content and pedagogy in teaching and learning to teach. *Journal of Teacher Education*, 51(3), 241–247. doi:10.1177/0022487100051003013
- Ball, D. L., & McDiarmid, G. W. (1990). The subject matter preparation of teachers. In W. R. Houston (Ed.), *Handbook of research on teacher education* (pp. 437–449). New York: Macmillan.
- Ball, D. L., Bass, H., Hill, H., & Schilling, S. (2005). Developing measures of mathematical knowledge for teaching. In *Teachers Development Group Leadership Seminar*. Portland, OR: Teachers Development Group.
- Ball, D. L., Hill, H. C., & Bass, H. (2005). Knowing mathematics for teaching. *American Educator*, 29(3), 14–17, 20–22, 43–46.
- Ball, D. L., Lubienski, S., & Mewborn, D. (2001). Research on teaching mathematics: The un-solved problem of teachers' mathematics knowledge. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., pp. 433–456). New York: Macmillan.
- Ball, D. L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching what makes it special? *Journal of Teacher Education*, 59(5), 389–407. doi:10.1177/0022487108324554

- Ballantyne, J., & Packer, J. (2004). Effectiveness of preservice music teacher education programs: Perceptions of early-career music teachers. *Music Education Research*, 6(3), 299–312. doi:10.1080/1461380042000281749.
- Battisti, F., & Garofalo, R. J. (1993). Suggestions for marking the score. In F. Fennel & H. Begian (Eds), *Conductors Anthology* (Vol. 2, pp. 279–282). Northfield, IL: Instrumentalist.
- Bauer, W. I. (2013). The acquisition of musical technological pedagogical and content knowledge. *Journal of Music Teacher Education*, 22(2), 51–64. doi:10.1177/1057083712457881
- Begle, E. G. (1979). *Critical Variables in Mathematics Education: Findings from a Survey of the Empirical Literature*. Washington D.C.: Mathematics Association of the America, National Council of Teachers of Mathematics.
- Beijaard, D., Verloop, N., & Vermunt, J. D. (2000). Teachers' perceptions of professional identity: An exploratory study from a personal knowledge perspective. *Teaching and Teacher Education*, 16(7), 749–764. doi:10.1016/S0742-051X(00)00023-8
- Borko, H., & Livingston, C. (1989). Cognition and improvisation: Differences in mathematics instruction by expert and novice teachers. *American Educational Research Journal*, 26(4), 473–498. doi:10.3102/00028312026004473
- Brittin, R. V. (2005). Preservice and experienced teachers' lesson plans for beginning instrumentalists. *Journal of Research in Music Education*, 53, 26–39. doi:10.1177/002242940505300103
- Chandler, K. W. (2012). *A survey of choral methods instructors at NASM-accredited institutions: Pedagogical content knowledge orientation and the choral methods class* (Doctoral dissertation, University of Colorado at Boulder). Retrieved from ProQuest Dissertations and Theses. (UMI No. 3527275)
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale, NJ: L. Erlbaum.
- Conway, C. (2002). Perceptions of beginning teachers, their mentors, and administrators regarding preservice music teacher preparation. *Journal of Research in Music Education*, 50, 20–36. doi:10.2307/3345690
- Denzin, N. K., & Lincoln, Y. S. (2005). *The Sage handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Depaepe, F., Verschaffel, L., & Kelchtermans, G. (2013). Pedagogical content knowledge: A systematic review of the way in which the concept has pervaded mathematics educational research. *Teaching and Teacher Education*, 34, 12–25. doi:10.1016/j.tate.2013.03.001
- Duling, E. B. (1992). *The development of pedagogical-content knowledge: Two case studies of exemplary general music teachers* (Doctoral dissertation, The Ohio State University). Retrieved from ProQuest Dissertations and Theses. (UMI No. 9227261).
- Emerich, D. J. (2015). *Evidence of pedagogical content knowledge among high school band directors and university applied music teachers in the context of student self-evaluation* (Unpublished master's thesis). University of Alabama, Tuscaloosa, Alabama.
- Forrester, S. H. (2015). *Music teacher knowledge: An examination of the intersections between instrumental music teaching and conducting* (Doctoral dissertation). Retrieved from ProQuest Dissertations Publishing. (UMI No. 3731290).
- Gohlke, L. J. (1994). *The music methods class: Acquisition of pedagogical content knowledge by preservice music teachers*. (Doctoral dissertation). ProQuest Dissertations Publishing (UMI No. 9504621).

- Green, E. A. H., & Gibson, M. (2004). *The modern conductor* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Grossman, P. (1990). *The making of a teacher: Teacher knowledge and teacher education*. New York: Teachers College Press.
- Haston, W., & Leon-Guerrero, A. (2008). Sources of pedagogical content knowledge reports by preservice instrumental music teachers. *Journal of Music Teacher Education*, 17(2), 48–59. doi:10.1177/1057083708317644
- Hill, H. C., Ball, D. L., & Schilling, S. G. (2008). Unpacking pedagogical content knowledge: Conceptualizing and measuring teachers' topic-specific knowledge of students. *Journal for Research in Mathematics Education*, 39(4), 372–400.
- Hill, H. C., Schilling, S. G., & Ball, D. L. (2004). Developing measures of teachers' mathematics knowledge for teaching. *The Elementary School Journal*, 105(1), 11–30. doi:10.1086/428763
- Hunsberger, D. (1988). Score study and preparation. In F. Fennel & H. Begian (Eds), *Conductors Anthology* (Vol. 2, pp. 282–295). Northfield, IL: Instrumentalist.
- Hunsberger, D., & Ernst, R. (1992). *The art of conducting* (2nd ed.). New York, NY: McGraw Hill, Inc.
- Kaplan, L. S., & Owings, O., W. A. (2002). *Teacher quality, teaching quality, and school improvement*. Bloomington, IN: Phi Delta Kappa International Press.
- Kennedy, M. M. (1998). Education reform and subject matter knowledge. *Journal of Research in Science Teaching*, 35(3), 249–263. doi:10.1002/(SICI)1098-2736(199803)35
- Kennedy, M. M. (2010). Attribution error and the quest for teacher quality. *Educational Research*, 39(8), 591–598. doi:10.3102/0013189X10390804
- Kind, V. (2009). Pedagogical content knowledge in science education: Potential and perspectives for progress. *Studies in Science Education*, 45(2), 169–204. doi:10.1080/03057260903142285
- Kochler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60–70.
- Labuta, J. A. (2010). *Basic conducting techniques* (6th ed.). Englewood Cliffs, NJ: Prentice-Hall
- Lane, J. S. (2006). Undergraduate instrumental music education majors' approach to score study in various musical contexts. *Journal of Research in Music Education*, 54, 215–230. doi:10.1177/002242940605400305
- Lane, J. S. (2010). An analysis of relationships between lesson planning training and rehearsal pacing of undergraduate instrumental music education majors in practice teaching settings. *Journal of Band Research*, 46(1), 52–63
- Lane, J. S., & Talbert, M. D. (2015). Examining lesson plan use among instrumental music education majors during practice teaching. *Journal of Music Teacher Education*, 24(3), 83–96. doi:10.1177/1057083713514979
- Lee, E., Brown, M. N., Luft, J. A., & Roehrig, G. H. (2007). Assessing beginning secondary science teachers' PCK: Pilot year results. *School Science and Mathematics*, 107(2), 52–60. doi:10.1111/j.1949-8594.2007.tb17768.x
- Lee, Y. (2011). Enhancing pedagogical content knowledge in a collaborative school-based professional development program for inquiry-based science teaching. *Asia-Pacific Forum on Science Learning and Teaching*, 12(2), 1–29.
- Loughran, J., Berry, A., & Mulhall, P. (2012). *Understanding and developing science teachers' pedagogical content knowledge* (2nd ed.). Boston, MA: Sense Publishers.

- Magnusson, S., Krajcik, J., & Borko, H. (1999). Nature, sources, and development of pedagogical content knowledge for science teaching. In J. Gess-Newsome & N. G. Lederman (Eds.), *Examining pedagogical content knowledge* (pp. 95–132). Berlin, Germany: Springer.
- Manfredo, J. (2008). Factors influencing curricular content for undergraduate instrumental conducting courses. *Bulletin of the Council for Research in Music Education*, 43–57.
- Miles, R. (Ed.). (1997–2007). *Teaching music through performance in band* (Vols. 1–6). Chicago, IL: GIA.
- Millican, J. S. (2008). A new framework for music education knowledge and skill. *Journal of Music Teacher Education*, 18(1), 67–78. doi:10.1177/1057083708323146
- Millican, J. S. (2012). *Starting out right: Beginning band pedagogy*. Lanham, MD, Scarecrow Press.
- Millican, J. S. (2013). Describing instrumental music teachers' thinking implications for understanding pedagogical content knowledge. *Update: Applications of Research in Music Education*, 31(2), 45–53. doi:10.1177/8755123312473761
- Millican, J. S. (2016a). Describing preservice instrumental music educators' pedagogical content knowledge. *Update: Applications of Research in Music Education*, 34(2), 61–68. doi:10.1177/8755123314552664
- Millican, J. S. (2016b). Examining pedagogical content knowledge of an expert band director teaching lips slurs. *Journal of Music Teacher Education*, 26(2), 90–103. doi:10.1177/1057083716629610
- Montemayor, M., & Moss, E. A. (2009). Effects of recorded models on novice teachers' rehearsal verbalizations, evaluations, and conducting. *Journal of Research in Music Education*, 57, 236–251. doi:10.1177/0022429409343183
- Montemayor, M., Silvey, B. A., Adams, A. L., & Witt, K. L. (2016). Effects of internal and external focus of attention during novices' instructional preparation on subsequent rehearsal behaviors. *Journal of Research in Music Education*, 63, 455–468. doi:10.1177/0022429415612201
- Okpala, C. O., & Ellis, R. (2005). The perceptions of college students on teacher quality: A focus on teacher qualifications. *Education*, 126(2), 374–383.
- Phelps, G., & Schilling, S. (2004). Developing measures of content knowledge for teaching reading. *The Elementary School Journal*, 105(1), 31–48. doi:10.1086/428764
- Price, H. E., & Mann, A. M. (2011). The effect of conductors on ensemble evaluations. *Bulletin of the Council for Research in Music Education*, (189), 57–72. doi:10.5406/bulcouresmusedu.189.0057
- Raiber, M., & Teachout, D. (2014). *From music student to teacher*. New York, NY: Routledge.
- Romines, F. D. (2003). A survey of undergraduate instrumental conducting curricula. *Journal of Band Research*, 38(2), 80–90.
- Rowan, B., Schilling, S. G., Ball, D. L., Miller, R., Atkins-Burnett, S., & Camburn, E. (2001). *Measuring teachers' pedagogical content knowledge in surveys: An exploratory study*. Presented at the Ann Arbor: Consortium for Policy Research in Education, University of Pennsylvania.
- Schmidt, M. (2005). Preservice string teachers' lesson planning processes: An exploratory study. *Journal of Research in Music Education*, 53, 6–25. doi:10.1177/002242940505300102
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14. doi:10.3102/0013189X015002004
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–23. doi:10.17763/haer.57.1.j463w79r56455411

- Silverman, J., & Thompson, P. W. (2008). Toward a framework for the development of mathematical knowledge for teaching. *Journal of Mathematics Teacher Education*, 11, 499–511. doi:10.1007/s10857-008-9089-5
- Silvey, B. A. (2011). Effects of score study on novices' conducting and rehearsing: A preliminary investigation. *Bulletin of the Council for Research in Music Education*, (187), 33–48.
- Silvey, B. A., & Fisher, R. A. (2015). Effects of conducting plane on band and choral musicians' perceptions of conductor and ensemble expressivity. *Journal of Research in Music Education*, 63, 369–383. doi:10.1177/0022429415597888
- Silvey, B. A., & Montemayor, M. (2014). Effects of internal and external focus of attention on novices' rehearsal evaluations. *Journal of Research in Music Education*, 62, 161–174. doi:10.1177/002242941453043
- Silvey, B. A., Montemayor, M., & Baumgartner, C. M. (2017). An observational study of score study practices among undergraduate instrumental music education majors. *Journal of Research in Music Education*, 65, 52–71. doi:10.1177/0022429416688700
- Silvey, B. A., Springer, D. G., & Eubanks, S. C. (2016). An examination of university conducting faculty members' score study attitudes and practices. *Journal of Music Teacher Education*, 26(1), 82–95. doi:10.1177/1057083715616442
- Snow, S. L. (1998). *Rehearsing in the choral context: A qualitative examination of undergraduate conductor/teacher planning processes and relationships to emergent pedagogical knowledge evidenced in teaching* (Doctoral dissertation). ProQuest Dissertations Publishing (UMI No. 9922376).
- Tamir, P. (1988). Subject matter and related pedagogical knowledge in teacher education. *Teaching and Teacher Education*, 4(2), 99–110. doi:10.1016/0742-051X(88)90011-X
- Venesile, C. J. (2011). *The acquisition of pedagogical content knowledge by vocal jazz educators*. (Doctoral Dissertation). ProQuest Dissertations Publishing (UMI No. 3446481).

Appendix A - Lesson Plans

Both Groups

1st hour

Basic Conducting:

0:00: Introduction and rationale for the study

0:05: basic conducting technique

(for example, pattern, plane, left hand, basic gestures)

Score Study:

0:30: Score orientation

(for example, reading a score, melody, harmony, dynamics)

0:40: Score marking discussion

(Pass out scores I have marked and have a brief discussion of what they notice)

0:55: Pass out Score Marking Checklist (adapted from Battisti & Garofalo, 1993) and musical score (*The North Face* by Jay Bocook) to be used for discussion and practice.

Content Knowledge Group

2nd hour

Detailed Score Study:

1:00: Discuss identifying important musical lines, what are the melody, harmony, rhythmic parts (using the checklist as a guide)

1:10 Make score on melody, harmony, and rhythmic lines with a partner (mark with pens, pencils, or highlighters)

1:20: Large group discussion on melody, harmony, and rhythmic lines

1:25: Listen to a provided professional recording with score

1:30: Discussion on how the listening to the model effected what their score study

1:35: Sing individual lines of the score

1:45: Silent Score Study

2:00: Give participants their preparation checklist and musical score.

Pedagogy Content Knowledge

2nd hour

Rehearsal Techniques:

1:00: Discussion about rehearsal techniques: Modeling

1:05: Sing individual melodic lines in the manner they want them to sound (for example, syllables, dynamics, pitch accuracy; using different melody lines with form *The North Face* to demonstrate modeling on primary instrument or singing with correct timbre, articulation, and dynamics).

- 1:15: Lecture about rehearsal techniques: Sequencing instruction with specific examples (for example, large group rehearsal, small group rehearsal, pacing)
- 1:20: Individual practice writing down a brief sequence place
- 1:25: Lecture about rehearsal techniques: Specific feedback
- 1:30: Partner up and practice giving specific feedback each other.
- 1:35: Discussion about rehearsal techniques: Contextualizing the performance
- 1:45: Silent score study and rehearsal technique study time.
- 2:00: Give participants their preparation checklist

Dr. Ron Shroyer: An Historical Study of His Career and Contributions to Central Methodist University

Ryan McLouth
University of Missouri
July 2017
Dissertation Supervisor: Dr. Brian Silvey

Dissertation Abstract:

The purpose of this historical study was to document the teaching career and achievements of Dr. Ronald Shroyer at Central Methodist University in order to examine the contributions made by Dr. Shroyer to his students, the institution, and the music profession.

The following data were collected during this study: (a) interviews with Dr. Shroyer, (b) written surveys from his former students and colleagues, (c) interviews with former Central Methodist University President Marianne Inman, (d) observations of Dr. Shroyer's informal interactions with others, (e) scores from compositions that he wrote, (f) professional and informal writings that he composed, (g) letters collected from correspondences with others, and (h) concert programs in which he appeared as a performer or those that included his music.

Chapter 2 of this study begins the chronological examination of Dr. Shroyer's life from birth to the beginning of his career. Chapter 3 serves as a chronology of Dr. Shroyer's career while at Central Methodist University. Chapter 4 is a detailed examination of his musical compositional style, his work as an arranger, and his music performance skills. Chapter 5 documents Dr. Shroyer as a pedagogue, and his teaching style. His influence on the Central Methodist University community from 1976 to today is described in Chapter 6. Chapter 7 is a summation of the findings from the study as a whole.

Dr. Shroyer was effective in many ways during his career. As a teacher, performer, composer, colleague, and administrator, he contributed to Central Methodist University and continues to positively influence teachers, students, and his community. He made a lasting impact on the institution through his role as an administrator and faculty member, and affected the lives of students who studied with him privately, in the classroom, and in ensembles. Dr. Shroyer also left his mark on the music profession as a composer. His music has been featured by many institutions, at conferences, and has been performed by professional musicians. He is highly regarded as a performer, one who possesses great versatility, and has impressed fellow players and audience members.

A Study of Social Comparisons and their Effects on High School Choir Directors

Laura Kitchel
University of Missouri
May 2017
Dissertation Supervisor: Dr. Wendy Sims

Dissertation Abstract:

This study was designed to examine social comparison usage by high school choir directors, and possible attributes that may affect the types of comparisons that are utilized. Directors from four Midwestern states were invited to participate in a survey designed to answer research questions pertaining to the extent to which they engage in social comparisons, the different ways that they socially compare, and potential relationships between job attributes, perceived control, and social comparison types. Three hundred and sixty-three participants returned usable surveys for a response rate of 31.6%. Results indicated that directors were engaging in social comparison, mostly to seek information, problem solve, and validate opinions. These comparisons were upward assimilative, which research has found to have positive emotional outcomes, such as inspiration and admiration. Two attributes, perceived control and number of years taught, played a role in three comparison types: Upward Assimilation, Upward Contrast, and Downward Assimilation. A qualitative component of the survey confirms that the participants were engaging in upward assimilative behaviors but also provides evidence that some directors experienced the negative effects of comparisons as well.

Music Education Professors' Beliefs Regarding Essential Musical, Academic and Emotional Skills in Undergraduate Music Education

Emily J. McGinnis
University of Missouri-Kansas City
May 2017
Dissertation Supervisor: Dr. Joseph Parisi

Dissertation Abstract:

Undergraduate music education majors sometimes lack the musical, academic, or emotional skills needed to successfully complete the degree program. Improvement in academic and emotional skills has been shown to have a positive effect on cognitive skill development, college transition, college retention, physical and mental health, and job success (Cunha & Heckman, 2010; Davidson, 2015; Kautz & Zanoni, 2014). Furthermore, past research indicates these skills are malleable into adulthood and can be effectively taught at the collegiate level (Cunha & Heckman, 2010; Davidson, 2015; Kautz, Heckman, Diris, ter Weel, & Borghans, 2014).

The present study collected responses from music education professors to determine (a) Beliefs regarding essential musical, academic, and emotional skills needed for undergraduate music education majors to complete the degree successfully, (b) Beliefs about the teachability of these skills and whether they are taught at participants' institutions, and (c) Strategies and learning activities to help students develop these skills. Professors ($n = 287$) who teach undergraduate music education courses were surveyed to discover what they believed to be the most essential skill in each of three areas: musical, academic, and emotional. They indicated whether they believed these skills are teachable and whether they are taught at their institutions, then provided an example of how one of their cited skills is taught.

The following skills were most frequently cited: aural skills, musicality/musicianship, literacy (reading and writing), empathy, and perseverance. Musical skills were believed to be the most teachable and most frequently taught, followed by academic skills, then emotional skills. Some commonalities among teaching strategies emerged, as well as some unique examples. These findings are relevant to music education professors when considering curricular strategies that may best help their students successfully complete the degree program. The findings may also benefit current and prospective music education majors as they examine, develop, and refine the particular skills necessary to be a successful music education major.

Effects of Differing Content Knowledge Types on Perceptions of Novices' Rehearsal Effectiveness: An Exploratory Study

Aaron T. Wacker
University of Missouri
May 2017
Dissertation Supervisor: Dr. Brian Silvey

Dissertation Abstract:

This dissertation comprises three projects that were designed to investigate specific lesson planning practices and how music teacher educators might improve students' instructional preparation. The first investigation is a review of literature pertaining to lesson planning and teacher knowledge—specifically Pedagogical Content Knowledge (PCK) and Content Knowledge (CK). The second investigation is a survey study about preservice teachers' perceptions of where in their coursework lesson plans were taught and used, beliefs regarding the importance of planning, and how prepared they felt to use lesson planning in their classes. Respondents (N = 107) indicated that they were taught lesson planning more often in music education courses than in general education or music method courses. The third investigation is an experimental study. Novice conductors (N = 20) were randomly divided into two equal groups (n = 10 per group). I sought to determine whether novices who focused their rehearsal preparation using typical score study methodologies (CK) differed from those whose preparation involved both score study and specific rehearsal strategies (CK and PCK). I found no significant differences between the control and experimental groups' score study knowledge or rehearsal effectiveness ratings. Results from these three projects indicated that preservice teachers (a) found lesson planning to be important, (b) felt prepared to use lesson plans as part of the instructional process, and (c) could use either preparation method to prepare for rehearsals.

School-Community Partnerships in Community Children's Choir Organizations

Elizabeth McFarland
University of Missouri
May 2018

Dissertation Supervisor: Dr. Wendy L. Sims

Dissertation Abstract:

This descriptive study examined community children's choirs' participation in K-12 school-community partnerships to describe characteristics of these organizations and their partnerships and to examine what the directors believed to be the benefits and challenges of such partnerships. Directors of community-based children's choirs in the United States ($N = 89$) completed a survey that included questions about their organization's participation in various forms of school-community partnerships. Thirty-three percent of respondent's organizations participated in at least one partnership. Most of those were long-term, simple-transaction partnerships with K-12 public schools, initiated by the children's choir organizations. Goals of partnerships included choral music education, support for schools/community, talent identification, outreach/engagement, and lifelong skill development. These goals were achieved through activities such as performances, educational activities, rehearsals, and recruitment. Some factors more strongly affected the decision to develop a partnership than others, including needs of the school, potential for recruitment, and location. Benefits of partnerships for singers included exposure to enhanced musical experiences and connecting with other singers. Partnerships also provided benefits to children's choir organizations, such as increased effectiveness of the organization's choral program, recruitment, exposure to diverse populations and public relations. Directors perceived the challenges of school-community partnership participation to be communication, lack of money, and finding time to plan/implement programs. Educators and community music directors need more information about partnerships to be able to contribute to building shared experiences. Conversation and education is needed to facilitate cooperation between organizations to find common ground for the good of music education in communities.

**Missouri Music Educators Association State Conference
Research Poster Presentations
January 2018
Osage Beach, MO**

Faculty and Doctoral Dissertation Research

The Musical Life of Billy Cioffi: A Narrative Inquiry

Isaac Bickmore, University of Central Missouri (doctoral dissertation, Arizona State University)

The Life and Music of Roland Marvin Carter: American Composer, Arranger, Conductor, Educator

Brandon A. Boyd, University of Missouri-Columbia (doctoral dissertation, Florida State University)

A Selected Content Analysis of the Music of Chuck Berry 1955-1964: Implications for Music Therapy

Robert Groene, University of Missouri-Kansas City

Perception of Discrepancies Between Intentions and Outcomes During Music Practice: Differences Among Musicians with Varied Levels of Experience and Expertise

Lani M. Hamilton, University of Missouri-Kansas City; Robert A. Duke, The University of Texas at Austin

School-Community Partnerships in Community Children's Choir Organizations

Elizabeth Hogan McFarland, Southeast Missouri State University (doctoral dissertation, University of Missouri-Columbia)

Effects of State Mindfulness Induction on the Preparation and Creation of Expressive Vocal Performances

Peter Miksza & Frank Diaz, Indiana University Jacobs School of Music; Daphne Tan, University of Toronto

Effects of Single Versus Multiple Line Music Notation Formats and Homophonic versus Polyphonic Musical Textures on Self-Directed Rehearsal Procedures and Vocal Octet Performance Quality

Charles R. Robinson, University of Missouri-Kansas City; Deborah A. Confredo, Temple University; Ruth V. Brittin, University of the Pacific; Daniel J. Keown, Youngstown State University; Philip B. Edelman, University of Maine

There's No There There: Experiences of Six Rural Music Educators

Jocelyn Stevens Prendergast, Truman State University

Effects of Wind Ensemble Seating Configurations on College Instrumentalists' Perceptions of Ensemble Sound

Brian A. Silvey, University of Missouri-Columbia; Aaron T. Wacker, Missouri Valley College; Bradley J. Regier, University of Missouri-Columbia

Imposter Phenomenon Responses of Early-Career Music Education Faculty

Wendy L. Sims, University of Missouri-Columbia; Jane W. Cassidy, Louisiana State University

Programming Trends of Missouri Class 4 and 5 High School Top Concert Bands"

Aaron T. Wacker, Missouri Valley College

A Descriptive Analysis of Concurrent Instruction in Secondary Choral Rehearsals

Adam C. Zrust, University of Central Missouri (doctoral dissertation, Florida State University)

Graduate Degree Research

The Significance of Repertoire from the Young Composers Project and Contemporary Music Project in Today's Band Repertoire

Christopher S. Barchesky, Troy Buchanan High School (University of Missouri-Columbia)

Transgender Students in Secondary Choral Classrooms

Dustin S. Cates, University of Missouri-Kansas City

A Survey of Community Band Participants in Marquette, Michigan

Amanda J. Fliflet, University of Mississippi

An Analysis of Adjudicator Feedback for High School Treble Choirs at the 2017, Ole Miss Choral Festival

Eric Johnson, University of Mississippi

Flow Theory and Alleviation of Music Performance Anxiety

Li Li, University of Missouri-Columbia

A History of Vocal Music Education at Alcorn State University 1973-2017

Gail A. Simpson, University of Mississippi

Assimilation Processes: How Music Majors Adapt to Collegiate Group Piano

Rachel D. Menscher, University of Missouri-Columbia

The Effects of Professional and Undergraduate Experiences on Jazz Pedagogy Self-Efficacy Among High School Band Directors

Bradley J. Regier, University of Missouri-Columbia

Music Teachers' Perceptions of Their Involvement in the Implementation Processes of Individualized Education Programs (Preliminary findings)

Karen Stafford, University of Kansas

Choral Rehearsal Planning Techniques of One Selected Successful High School Choral Director

Rod Vester, University of Mississippi

Undergraduate Student Projects

Zeta Chapter, Phi Mu Alpha Sinfonia: A 110 Year History

James M. Shemwell, University of Missouri-Columbia (advised by
Dr. Michael Budds)

Call for Papers 2019 Missouri Music Educators Association State Conference Research Poster Presentations

Missouri has one of the most successful research sessions of any state conference. The poster format allows for a number of researchers to present their work in an informal setting, where participants can engage in conversation with the researcher. Researchers whose reports are chosen for presentation will prepare a poster describing their research and be available during the presentation session to discuss their work. Participants will bring 30 copies of their abstract for distribution at the session, and respond to inquiries about their work that could include requests for the complete paper, or information about how to obtain it in the case of theses and dissertations.

Those who wish to submit a report for consideration should comply with the following guidelines:

1) There will be three kinds of research accepted for presentation: a) completed master's theses or doctoral dissertations; b) reports of original research studies, and c) student non-degree projects.

2) a) To submit completed master's or doctoral research, it only is necessary to submit a copy of the abstract, a copy of the document's title page, and a copy of the signature page which indicates that the paper was accepted in partial fulfillment of degree requirements. The name of the degree-granting institution should appear on one of these pages, or must be included with the submission, as well as the author's full name and e-mail. If all of the above-mentioned items are included, the completed thesis or dissertation will be guaranteed acceptance for presentation. These may be sent by e-mail to the address on the next page.

b) To submit a report of an original research project, e-mail a copy of the complete paper, including an abstract, in Word document format. The project should demonstrate sound research practices and writing style and should be complete. Small scale studies, including action research, are appropriate for this forum. The author's name, address, e-mail, and current school affiliation should appear only on a separate page/file from the abstract and/or manuscript.

c) Students may present non-degree projects that are submitted by faculty at Missouri colleges and Universities. Faculty members should contact Wendy Sims at the address below for further information.

3) Papers presented at conferences other than previous MMEA state conferences will be permitted as long as this is clearly indicated in a statement included with the submission.

4) Authors will be apprised of the results of the selection process by e-mail. A hard copy of acceptance letters will be provided upon request.

5) Submissions must arrive at the address below by December 12, 2018. Authors will receive notification of acceptance by the end of December. Address submissions (or questions) to:

Wendy Sims, University of Missouri-Columbia
SimsW@missouri.edu

We will look forward to a large number of submissions and to another interesting and lively research session.

Missouri Journal of Research in Music Education

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INFORMATION TO CONTRIBUTORS

The *Missouri Journal of Music Education* is a publication devoted to the needs and interests of the school and college music teachers of Missouri and of the nation. The editorial committee of the journal encourages submissions of original research pertinent to instruction in music of a philosophical, historical, quantitative or qualitative nature. In addition, reviews of literature that include a rationale/purpose, as well as conclusions and/or implications for research and/or practice, and suggestions for future research, will be considered.

Submission Procedures. Authors are invited to submit an abstract of 150 – 200 words and manuscript in a single .doc attachment to the editor via silveyba@missouri.edu. Authors are requested to remove all identifying personal data from submitted articles. Manuscripts submitted for review must not be previously published or under consideration for publication elsewhere.

Style. Manuscripts should conform to the most recent style requirements set forth in the *Publication Manual of the American Psychological Association* (APA, Sixth edition). Authors of non-quantitative papers may alternatively choose to adhere to *The Chicago Manual of Style*, or *A Manual for Writers of Term Papers, Theses, and Dissertations* (K. L. Turabian). Styles should not be mixed within the submission. The text should be double-spaced and use a 12-point font. All figures and tables should be submitted camera ready within the manuscript and designed so that they will fit with the page space of the journal (approximately 4.5 inches wide by 7.5 inches high) and use an 8-point or larger font size. To assure anonymity during the review process, no identifying information should be included in the submission.

Review Procedures. Three editorial committee members review submissions in a blind review process. Authors will normally be notified of the status of the review within two months. The editorial committee adheres to the Research Publication/Presentation Code of Ethics of the Music Education Research Council of NAFME: National Association for Music Education and the National Research Committee of the American Music Therapy Association.

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