How to Learn a Piece: Strategies for Musical Practice

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Introduction

Practice is an integral part of the daily routine of a musician. Different performers have different views on practice. Chaffin, Imreh, and Crawford (2002) provided an inside look of what some master pianists have said. Claudio Arrau loved to practice, while John Browning said that practicing made him angry to the point of using four-letter words. Jorge Bolet claimed to practice mostly mentally, using the piano no more than an hour and a half at a time. Bella Davidovich, on the other hand, suggested practicing in one-hour increments, up to eight hours a day (44-48). As evidenced by this variety of opinions, each person will have a practice method that suits them best. However, what are some common traits among those who practice well? What elements of practice are used by expert musicians to guarantee the best outcome for a practice session? Identifying these elements in the literature on musical practice is the purpose of this paper.

Strategies for Practice

According to Chaffin, Gerling, Demos, and Melms (2013), the first step when learning a musical work should be to grasp the piece as a Big Picture. They show that expert musicians begin the study of a piece by forming a mental image of the work, and that having a big-picture view of a piece from the start allows these musicians to structure their study so that a mental map of the piece is formed using Performance Cues to help them keep track of where they are in the piece and what comes next. This was put to the test by Chaffin et al. by recording data on Gerling's process of learning and performing Chopin's *Barcarolle Op. 60*. Gerling began to learn the piece by developing a mental image of the piece, assisted by a Schenkerian analysis.

This allowed her to identify starting places that could serve as Performance Cues which in turn contributed to the forming of a mental map of the piece even before the analysis, culminating in more efficient use of practice time and more secure performances.

The role of Performance Cues in the learning of a piece was researched by Gerling and Dos Santos (2017). They outline studies showing that there is perceptible distinction between the practice strategies of novices and those of professionals. They say that inexperienced musicians rely on rote-memory, derived from the repetition and stringing-together of chunks of music, while professionals rely on memorization strategies early in the learning stages. This memorization is only made possible by the use of Performance Cues. These vary according to their function and can be basic cues (technical aspects of the performance), structural cues (formal aspects), interpretative cues (musical gestures), and expressive cues (extramusical feelings). In their research, the authors requested that nine undergraduate piano students apply these Performance Cue concepts to their memorization of new pieces and recorded and analyzed the results. They found that during the performances of pieces that they had learned using the four types of performance cues outlined above, there were no memory lapses, as opposed to pieces learned without their use (three out of nine students experienced memory lapses).

A Big Picture concept and the establishment of Performance Cues can be accomplished by a strategy called Mental Practice. Van Meer and Theunissen define it as “a technique by which someone with the intent to practice creates a mental representation of a preconceived idea or action in order to enhance performance” (as cited in Bernardi, Schories, Jabusch, Colombo, & Altenmüller, 2013, p. 275). In their experiment, Bernardi et al. compared the use of Mental Practice to that of Physical Practice in the learning process of sixteen college-level German pianists. The students were asked to memorize Domenico Scarlatti’s C major sonata (K 72) and

A major sonata (K 113), half of the students using Mental Practice and the other half using Physical Practice. Comparisons of the data collected allowed the researchers to conclude that the use of Mental Practice by itself allowed students to achieve 40% to 60% of the proficiency obtainable with Physical Practice alone. When 30 minutes of Mental Practice were combined with 10 minutes of Physical Practice, students were able to achieve a level of proficiency comparable to 30 minutes of Physical Practice. As Bernardi et al. point out, these results show that by using Mental Practice in combination with Physical Practice, musicians can memorize a piece without having to deal with the physical strain of motor work. In addition, they propose that Mental Practice should focus on imagery of the sounds to be produced and the structure of the piece, with motor aspects performing a minor role in Mental Practice. It seems then that Mental Practice could be combined with the Big Picture concept especially in the early stages of the learning process to achieve a more efficient practice. In addition to helping avoid injuries due to overuse, the researchers suggest that using Mental Practice can help optimize the time available for practice on an instrument, as well as help musicians achieve a deeper understanding of the music that is being learned.

Once a musician is ready to begin a practice session it is important to remember that one of the well-established concepts regarding this topic is that it must be deliberate. The research to support this statement was outlined by Williamon and Valentine (2000), who described deliberate practice as being "a highly structured activity with the explicit goal of improving some aspect of performance" (p. 355). However, they showed in their research involving 22 pianists of four different skill levels, all of whom had practiced deliberately albeit with varying durations of practice sessions, that there was no correlation between the duration of deliberate practice sessions and the quality of the performances. The authors suggest that the reason behind this lack

of correlation between the amount of deliberate practice and the quality of a performance may be due to the content of the different stages of their practice. They divided the practice sessions into three stages and found that those participants who produced the best results in performance had spent the second and third portions of their learning periods honing refining interpretative and communicative aspects of the piece, having overcome technical difficulties early in the learning process. Performers with less satisfying results had spent both the first and second parts of their learning periods working on technical difficulties. They propose that overcoming technical difficulties early in the learning process of a piece is crucial to a good final performance.

Duke, Simmons, and Cash (2009) observed the practice of 17 graduate and advanced-undergraduate pianists to identify the relationship between their practice strategies and the quality of their performance of an excerpt from Shostakovich's *Concerto No. 1 for Piano, Trumpet, and String Orchestra*. They found that what distinguished the three highest-ranking participants from their peers was the quality of their practice sessions. The most important factor contributing to quality practice was the fact that errors were identified and dealt with early on, often changing the tempo so that accuracy could be maintained throughout the section being practiced. Perhaps it was the skill of promptly identifying and correcting errors, identified by Duke et al. (2009), that allowed the students researched by Williamon and Valentine (2000) to overcome technical difficulties earlier in the learning process and spend the bulk of their deliberate practice time honing interpretative elements of the performance.

While researching the role of repetition in the practice of advanced musicians, Maynard (2006) found that, during their practice, these artists would select target passages, akin to the Performance Cues mentioned above, to work on before performing them within larger contexts. The practice of these sections involved one to two minutes of repetition of a target passage

before moving on to another one. She also points out that that, when comparing the practice sessions of teacher artists, advanced graduate, and advanced undergraduate subjects with those of beginning undergraduate musicians, the first group selected more target passages than the latter. Perhaps the reason for Maynard's findings lies in Duke et al. (2009). Although Duke et al. did not measure the number of mistake-sections identified and corrected, it seems like it would be reasonable to assume that, if advanced musicians are more adept at identifying errors, the sections where problems were identified and dealt with (target passages) would also be more numerous than those of less advanced musicians.

In addition to being deliberate and consisting of early identification and correction of mistakes by a variety of strategies including repetition, research shows that practice must also be distributed over several sessions. The reason for this is that, although the act of learning involves changes in the neural patterns of the brain, caused by the repetition of a physical movement, these changes continue to happen even after a practice session (Simmons & Duke, 2006, p. 258). The process that occurs during this post-practice period of neural changes, during which the brain continues to encode and refine the motor skills and memories learned during practice, is called consolidation (Simmons, 2012, p. 358). In the research conducted by Simmons and Duke (2006) the authors instructed participants, all of whom were music majors with at least two years of experience in class piano, to learn a twelve-note melody during a twelve-minute training session. Participants were divided into five groups, consisting of morning training and evening retesting (AM/PM); evening training and morning retesting (PM/AM); morning training, evening retesting, and morning retesting (AM/PM/AM); evening training, morning retesting, and evening retesting (PM/AM/PM); and morning training and morning retesting (AM/AM). The authors found that distributing practice and retesting over a period that included sleep resulted in a higher

performance accuracy, showing that an increase in accuracy is the result of sleep-dependent consolidation. In a similar research, Simmons (2012, 364) found that an increase in speed when learning music is a combination of wake- and sleep-dependent consolidation.

The findings of both Simmons and Duke (2006) and Simmons (2012) are corroborated by Cash (2009). In her research of *The Effect of Early and Late Rest Intervals on Performance and Overnight Consolidation of a Keyboard Sequence*, Cash inserted a five-minute interval between the the first and second thirds of a practice session for one group of participants, while she inserted the same interval between the second and third portions of the practice session for another group. A third group underwent a practice session without any five-minute breaks. She found that inserting rest periods of as little as five minutes in the early stages of a practice session produces a greater improvement than when these periods are inserted later in the session or not at all. This effect extended to the overall higher achievement level of the early-stage-rest group during a retest following a night of sleep. Cash suggested that this shows that students who achieve a higher skill level during the early stages of practice may achieve a higher overall improvement, an opinion shared by Williamon and Valentine (2000), mentioned above.

What this Means for Pianists

Thus far I have shown that, in general, for practice to be effective, it must begin with a Big Picture of the piece and may include the use of mental practice. Practice must be deliberate, with errors being promptly identified and dealt with. Target passages must be selected and rehearsed before they are inserted into larger contexts. The practice sessions during which these passages are worked on must also be distributed over a period of 6-24 hours, with smaller, five-

minute rest periods during each session, to allow for both wake- and sleep-based consolidation. This in turn will result in optimum improvement of speed and accuracy. These are strategies that may be applied profitably to any instrument. However, how can these strategies help pianists?

Applications fall under the general umbrella of learning a piece from a Big Picture point of view before tackling technical aspects. This may seem counter-intuitive to a piano student, as being able to play a piece may seem much more pressing than understanding the form. After all, fingerings must be chosen, and technical problems dealt with to simply be able to play the piece. Shouldn't one start with these issues? Chaffin, Imreh, Lemieux, and Chen (2003) acknowledge the importance of these issues but point interviews with prominent pianists such as Sviatoslav Richter and Emil Gilels for a solution. These artists reported learning a piece in three stages: developing ideas about the final product, working on technical problems, and practice performances focusing on the work as a whole. The reason Chaffin et al. give for employing this strategy is that many solutions to technical issues are dependent on interpretative decisions. They argue that, if a Big Picture understanding of a piece is ignored, one may have to relearn technical aspects once interpretative decisions are made. In this sense, using a Big Picture approach saves time, a valuable asset especially for pianists, who have to learn more notes at once than most other musicians. Let it not be forgotten also that research shows that using this approach in the early stages of learning a piece culminates in a more secure performance, (Chaffin et al., 2013; Gerling & Dos Santos, 2017) and, when combined with mental practice, can help optimize practice time and avoid injuries related to overuse of the muscles (Bernardi et al., 2013).

Discussion of an Effective Practice Session

In this paper I have shown that, according to the literature on musical practice, for practice to be effective, it must be deliberate. In other words, it must be structured, containing specific goals to be reached and a knowledge of the strategies to be employed to achieve the pre-established objectives. Errors must be identified and dealt with promptly. It must begin with a solid overall understanding of a piece. This will allow for performance cues to be identified and for practice to be structured so that sections can be combined as a mental map that will help the performer keep track of the portion of music that is being played at any given moment. Once a musician understands the structure of a piece, technical aspects can be dealt with without the risk of having to be reworked later in the learning process, which saves time and energy. Mental Practice can be used as part of process of understanding a piece as a whole. After studying a piece without the instrument, a musician can tackle technical issues, such as working out fingering and working out difficult passages, by practicing target passages and sections where mistakes are identified. It is important to remember that, besides the mental and physical practice, a consolidation period is necessary in order to achieve optimum efficiency of practice sessions. This includes wake-consolidation, consisting of five-minute intervals early in the learning of a passage, and a longer period of time which includes sleep. Sleep-dependent consolidation should be used in conjunction with wake-consolidation to achieve the best possible final performance of a piece. In other words, a problem doesn't have to be solved in a single session or in a single day. It must merely be improved upon little by little, day by day. Consolidation periods must be allowed!

In light of the information outlined in this paper, the question remains regarding how to ensure that all the elements of effective practice are present during individual practice sessions

and in the long-term process of learning a musical piece. In his research, Cremaschi (2012) suggests that an efficient way is to keep a daily and weekly practice log. He collected data from 41 music major class piano students, 22 of which filled out practice checklists (Figure 1) throughout one semester.

Piano practice checklist Name:_____

	Example	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
	3/23/09	/ /09	/ /09	/ /09	/ /09	/ /09	/ /09
CHECK ALL THAT APPLY							
Strategies							
Slow practice	√						
Different tempos							
One hand at a time	√						
Sectional practice	√						
Mindful repetition	√						
Fingering check							
Other techniques							
Self-monitoring							
Practice planning	√						
'Inner teacher'	√						
'On stage' run through							
Progress made (1=none - 5=lots)	3						
Rate your concentration (1=poor - 5=excellent)	2						

List the pieces or exercises you worked on this week

	Example 3/23/09	Day 1 / /09	Day 2 / /09	Day 3 / /09	Day 4 / /09	Day 5 / /09	Day 6 / /09
Piece 1	Scales						
minutes	5						
Piece 2	Full moon						
minutes	12						
Piece 3							
minutes							

Figure 1. Practice Checklist (Figure adapted from Cremaschi, 2012).

Cremaschi found that the use of weekly practice checklists can improve students' self-reflection as well as encourage the use of practice strategies and self-regulation. In other words, students who use weekly checklists are more likely to practice deliberately, employ their knowledge of personal practice strategies (metacognition), adapting their practice according to the challenges that arise during a practice session.

Reference List

Bernardi, N. F., Schories, A., Jabusch, H., Colombo, B., & Altenmüller, E. (2013). Mental practice in music memorization: An ecological-empirical study. *Music Perception: An Interdisciplinary Journal, 30*(3), 275-290. https://www.jstor.org/stable/10.1525/mp.2012.30.3.275

Cremaschi, A. (2012). The effect of a practice checklist on practice strategies, practice self-regulation and achievement of collegiate music majors enrolled in a beginning class piano course. *Research Studies in Music Education, 34*(2), 223-233. DOI: 10.1177/1321103X12464743

Cash, C. D. (2009). The effect 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

Chaffin, R., Imreh, G., & Crawford, M. (2002). *Practicing perfection: Memory and piano performance*. Mahwah, NJ: Lawrence Eribaum.

Chaffin, R. Gerling, C. C., Demos, A., & Melms, A. (2013). Theory and practice: A case study of how Schenkerian analysis shaped the learning of Chopin's *Barcarolle*. In Williamon, A., & Goebl, W. (Eds.). (2013). Proceedings from ISPS 2013: *International Symposium on Performance Science*. Brussels, Belgium: AEC.

Chaffin, R., Imreh, G., Lemieux, A. F., & Chen, C. (2003). “Seeing the big picture”: Piano practice as expert problem solving. *Music Perception, 20*(4), 465-490. http://dx.doi.org.ezproxy.bgsu.edu/10.1525/mp.2003.20.4.465

Duke, R. A., Simmons, A. L., & Cash, C. D. (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. https://doi.org/10.1177/0022429408328851

Gerling, C. C., & Dos Santos, R. A. T. (2017). How do undergraduate piano students memorize their repertoires? *International Journal of Music Education, 35*(1), 60-78. DOI: 10.1177/0255761415619427

Maynard, L. M. (2006). The role of repetition in the practice sessions of artist teachers and their students. *Bulletin for the Council for Research in Music Education 167*, 61-72. https://www.jstor.org/stable/40319290

Simmons, A. L., & Duke, R. A. (2006). Effects of sleep on the performance of a keyboard melody. *Journal of Research in Music Education 54*(3), 257-269. https://doi.org/10.1177/002242940605400308

Simmons, A. L. (2012). Distributed practice and procedural memory consolidation in musicians' skill learning. *Journal of Research in Music Education 59*(4), 357-368. https://doi.org/10.1177/0022429411424798

Williamon, A., Valentine, E. (2000). Quantity and quality of musical practice as predictors of performance quality. *British Journal of Psychology, 91*, 353-376. https://doi.org/10.1348/000712600161871