

# To Investigate the Correlation between Practice Style and Practice Efficiency of Instruments Learning: A Pilot Study of Piano-Major College Students

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**ABSTRACT.** *Practice makes perfect. It's obvious that not all kinds of practice lead to perfect. The research studied different practice styles and preferences of piano-majored college students, including daily practice routine, new piece learning, and use of recordings. Qualitative methods are applied through interviews of 6 participants from the same conservatory in mainland China. Even practice styles could be very personal, similarities still existed, or crossed for the same purposes. Participants are all aware of their own practice style. Future research could focus on different aspects referred to in the discussion, and could provide information and references for piano teaching as well.*

**KEYWORDS:** *Practice Style, Piano Practice, College Students, Routine, Recordings*

## 1. Introduction

It is often said that music can cultivate sentiment due to its aesthetic characteristics and people's psychological perception. Nowadays, quality education has been recognized by more and more people, in which music plays a critical role. To be specific, the content of music education is rather extensive, including music memory, music imagination, music ability, as well as the training of music skills and the psychological state of music performance. The study of music education has been of vital significance. It not only involves the scientific and rational interpretation of the essential attributes of music, but also relates to the correct positioning of the function and value of that. Among branches of music education, the practice of instruments tends to be a routine for every individual professionally learning music. In general, scholars acknowledged the role of practice in music education (Ericsson, Krampe & Tesch-Römer, 1993). There are a number of academic studies on that, such as the differences of practice motivation, regulation, frequency and amount between orchestra and band students (Austin & Berg, 2006).

Similarly, Barry (1991) made a comparison between the practice strategies of advanced student musicians and professionals. In fact, even many musicians have their own unique practice behaviours, which have a profound impact on their performance.

As for the practice of instruments, much attention is paid to the practice efficiency. Geringer and Kostka (1984) summarized more elements contributing to that, including the use of a distraction index, attentiveness and practice principles. Take the piano as an example. A quantitative study finds that self-reported performance goals could predict practice behaviour among adult piano beginners (Lehmann & Papousek, 2003). Furthermore, it is believed that the arrangement of time, sight-playing expertise and slow practice matter in the efficiency of piano practice (Zhang, 2013). In spite of these findings, music students have different ways to enhance their practice efficiencies, and their practice styles are various. Lancaster (2006) proposes that piano students are mostly different, so as the teaching and learning patterns. Coffman (1990) divided the types of piano practice into four categories, namely 'physical practise, mental practise, alternating physical/mental practice and motivational control practice'. He did an experiment to see the effects of practice style on piano performance. In our study, we focus on the practice style of piano and see the association between practice style and practice efficiency of instruments learning. We assume that the practice styles of different piano learners would influence their performance.

Generally speaking, we will discuss the practice style in three aspects. Firstly, students' routines of practising the piano will be addressed. In this essay, we emphasize the role of habits/routines in the learning of instrumental music. Students have the potentials to form certain professional habits during daily practices, through which they could gradually master various playing techniques. It becomes one of the reasons that a variety of styles have been formed, which make the music performance diverse. Therefore, in the research, we will ask participants questions about their practice routines of the piano.

Secondly, the way students practice a new song will be analyzed. Students are often enthusiastic about learning new tracks, but they lack specific rules, and some experience accumulated in previous studies is not enough to cope with new ones. There have already been studies on classical singers (Ginsborg, 2002), a violinist with Alzheimer's disease (Cowles, Beatty, Nixon, Lutz, Paulk, Paulk & Ross, 2003) and their learning of new songs. As a result, it would be practical for us to do similar research on the association between learning new songs and practice efficiency for piano students.

Thirdly, whether students using the recorder tape or not may influence their practice efficiency when learning the piano. It seems that using the recorder in the practice of the piano can help students establish an objective listening habit and remember. In particular, when practising concertos or chamber music, the recorder can better serve as an orchestra. The tape has been a common factor among studies on music education since its invention (Biggs, 1960; Wiehe, 1971). Anderson (1981) once did an experiment to see the effect of tape on students' performance. Although

no statistical significance was found by him, many scholars still put that factor into consideration in their later research (Weaver, 2005). What's more, how they use the recorder/tape would have effects on results of piano practice.

In the following passage, we will further conduct studies to figure out the correlation between practice style and practice efficiency of piano learning. We hope that factors of practice routines, new song practices and tape/recording practice would contribute to the music education research. For students learning piano and teachers, this study can be a reference for them to reflect on their learning and teaching conditions. Besides, the learning practice of piano students could determine the trend of future musical performances, so it is important to emphasize the practice style and its efficiency.

## **2. Literature Review**

There is broad agreement within the music profession that practicing effectively is essential for successful learning and performance (Chaffin, Imreh, & Crawford, 2012; Chaffin & Lemieux, 2004; Hallam, 1997; Miklaszewski, 1989; Nielsen, 2001). Educators have been arguing that teachers must train students to become more autonomous, to self-regulate and teach themselves to learn music outside of the lesson or ensemble rehearsal (Jørgensen, 2000, 2004; Leon-Guerrero, 2008; Hallam, 2001; McPhail, 2010, 2013; Varela, Abrami, & Uptis, 2016).

But, within music, studies on practice are still relatively scarce compared to other academic subjects and sports (Jørgensen & Hallam, 2016; Lehmann & Jørgensen, 2012). At the same time, most studies on analyzing practice in the field of music used the Strategies. According to Oare (2007), Practice strategies are also among the strategies encountered in studies in the field of music. These strategies include students getting motivated, setting goals, self-assessing and their strategy use processes. Just like in every dimension of learning, the use of various learning strategies is crucial for easy and permanent learning of instrumental music, and in learners attaining the skill to learn independently. Learning strategies have been defined by many educators in various ways (McPherson, Osborne, Evans, & Miksza, 2019). In another study on university students playing string instruments, practice strategies consist of strategies like repetition of the entire piece, repetition of little sections of the piece, doing technical works and analyzing the piece. Also, hand position transitions, practicing in unknown chords, playing slowly, using metronome for slow practice tempo, increasing gradually and playing the section many times are given as examples to practice strategies (Sikes, 2013).

Moreover, most studies on practice focus on teenagers and children, as well as musicians. While several students appeared to be developing some deliberate practice strategies, many of them were reliant on the teacher. Thus, learning and progress were only happening once a week (at the lesson) rather than daily during practice sessions. If we can empower students to become more creative, flexible, and engaged during their daily practice, they will become better at practicing and likely more motivated to play their instrument (Pike, 2017).

But it's also important for us to understand the practice of students in major colleges. Studies of music students in higher education indicate that while they can discuss ways to practice (Santos & Gerling, 2011), there is variability in the effectiveness of practice and students are not necessarily being instructed in how to develop successful and practical strategies at the undergraduate level (Hallam, 1997; Pike, 2014, 2016). However, those students who learn how to practice deliberately meet with more success during performance throughout their degree programs (Nielsen, 1997; Pike, 2014) and effective practice among professionals improves with age (Araujo, 2016). Through observation and study of professional and advanced musicians, researchers have documented that professionals employ self-regulation strategies to reach specified goals (Chaffin & Imreh, 2001; Chaffin et al., 2012; Hallam, 1997; Miklaszewski, 1989; Nielsen, 2001). Presumably, as students gain more experience with their instrument and develop technical and musical expertise, self-regulation will begin. There is evidence that practice efficacy (including self-regulation, error detection, evaluation, and use of practice strategies) improves as a student's level of playing skill and expertise increases (Gruson, 1988; Hallam et al., 2012).

Rachmaninoff, the Greatest Pianist and Famous Composer and Conductor in the 20th century, once said: "an excellent pianist shall have clean, fast, clear and flexible basic skills". She/he shall endeavor to exploit "the internal force" of fingers, arms, wrists and other physiological functions. As is known to all, the great pianists in the history never stop learning and practicing basic skills no matter in the initial learning stage or later playing career. It can be seen that the piano playing skills are important. Even piano masters spend a lot of time practicing. We are of no fame, and in the early training stage. We should make great efforts to learn and practice basic skills and apply them skillfully (Zhang, 2016). Our working assumption was that no single factor would be able to define, or fully explain, each individual student outcome (McPherson et al., 2019). We will take piano students as an example to understand the relationship between their practice methods and practice efficiency. Understanding how students reach the high level of piano by practicing involves knowing how they think during practice, themselves, as well as the amount of time they spend practicing.

### **3. Research Question**

To investigate the correlation between practice style and practice efficiency of instruments learning: A pilot study of piano-major college students

*Sub-question 1: To investigate preferences, attitudes, and perceptions of daily practice routine;*

*Sub-question 2: To investigate preferences, attitudes, and perceptions of new piece practicing strategies;*

*Sub-question 3: To investigate preferences, attitudes, and perceptions of recordings using.*

#### 4. Methodology

To be clear, the research is a pilot study.

Six participants (5 females, 1 male) were informed and consented to take part in the study. All the participants are studying their undergraduate degrees in the same conservatory in Mainland China, and all majored in piano, music performance. 3 participants have been learning piano for 16 years, and others have been learning for 14 years. 2 participants spent their high school in the affiliated school of the conservatory, and others came from public high schools.

Qualitative method was applied. The data collected through interviews. Limited to some external conditions, we used video call to do the interviews, and recorded all the interviews. To keep the errors as little as possible, they were interviewed by a researcher in our research team, and the interviews were translated into text and decoded by the same researcher. Other researchers in the team replayed and reviewed the interviews, and reached the consensus of the final data.

Descriptive statistics were made from the data collected, to study the distribution of the participant group. Pseudonyms were used to protect their privacy.

#### 5. Data Analysis

##### 5.1. Daily practice routine

*Questionnaire 1: Do you have a daily practice routine? If so, explain it.*

The practice routine is thought to be a planned and organized practice sequence. A well-planned and suitable practice routine could be an important factor that could help one's performance. The first question of the interview mainly focused on participants' preferences for daily practice routine.

As the interview shows, daily practice routine exists in most participants' practice (4 out of 6). 2 of the participants suggested that they didn't have a routine of daily practice. Their practice mainly depended on their feelings, and wasn't very organized and planned.

*Question 2: How do you plan your whole day practice?*

*Table. 1 References for the daily practice plan*

<i>The daily goal of practicing</i>	<i>Emphasis on practicing</i>	<i>Teachers' requirements</i>	<i>As one's wish</i>
3	2	2	2

There are some differences in their decision-making of everyday practice plan. Half of them(3 out of 6) have a certain purpose and a daily goal of practice on that day. Two interviewees mentioned that they will focus on some parts of their practice, and emphasize the practice through assigning more time and effort on them. The emphasized parts could be requirements from teachers, difficulty on techniques, and personal perception of practice need. Teachers' requirements, as one of those important aspects of routine and also the reference of daily practice, were mentioned by two interviewees, which is thought to be relatively typical.

### 5.2. New piece learning

*Question 3: What is the very first thing you do with a new piece?*

*Table. 2 What is the very first thing you do with a new piece?*

<i>Listen to recording</i>	<i>Sight-reading</i>	<i>Score-reading</i>	<i>Edition decision</i>
<i>4</i>	<i>2</i>	<i>2</i>	<i>1</i>

It's often said that a year's plan starts with spring. A day's plan starts in the morning. In other words, the first step is always difficult. A good start always means a lot to the later things. The third question of the interview mainly focused on participants' preferences for the first thing of new piece practice.

As the interview shows, listening to recording is dominated in participants' practice(4 out of 6), which is beneficial to foster an understanding of the whole piece and be a reference. Besides, it also shows some differences in detail. Both of Sight-reading and Score-reading were mentioned by two interviewees. It is worth mentioning that the difference between Sight-reading and Score-reading is that the former is focused on playing part and Score-reading is based on thinking. In addition, only one participant suggested that edition deciding was thought as the most important things to do with a new piece. Although it's the lowest one, we can't forget its importance to performance. Different editions might process or compile differently, and the differences could be thought an impact to practice and performance.

*Question 4: Do you have a fixed plan(pattern or order) of a new piece's learning?*

A fixed plan(pattern or order) seems like the growth of the children. A thoughtful and effective fixed plan could contribute a lot to one's practice process and performance. The fourth question of the interview mainly focused on participants' preferences for a fixed plan for a new piece's learning.

As the interview shows, both similarities and differences exist in the participants' practice. The beginning and ending parts are pretty similar to each other, but differ in the middle.

*Question 5: While learning a new piece, which part or step do you think is the most important one?*

*Table.3 While learning a new piece, which part or step do you think is the most important one?*

<i>Expression and interpretation of the genre or style</i>	<i>Notes accuracy</i>	<i>Techniques</i>	<i>Memorizing</i>
2	2	1	1

The most important step of learning a new piece is identified as a focal and intensive event. A correct key point settled by oneself feature acts as an important part of the learning process. The fifth question of the interview mainly focused on participants' preferences for the most important step of learning a new piece.

As the interview shows, the proportion of expression and interpretation of the genre or style and notes accuracy is the same (2 out of 6). However, there are some differences in detail. According to the 4 supporters of them, the expression, key and difficult points are absolutely affected by both of them. 1 interviewee mentions that he will focus on expression and interpretation of the genre or style rather than notes accuracy because too much attention to notes accuracy will disrupt the control and expression. Besides, techniques and memorizing are also mentioned by 2 interviewees separately. Both techniques and memorizing are thought to be the final goal in interviewees' performance.

### **5.3. Using of recordings**

*Question 6: Do you listen to recordings from pianists before learning a new piece?*

*Question 7: How do you use the recordings from the pianists? Or what do you think will these recordings help you?*

Recordings from pianists are thought to be a reference substance during practice. All you need to do is to use your smartphone, and open a multimedia APP (i.e. YouTube, NaxosMusicLibrary, Apple Music). A classical and accepted recordings could be good examples for every piano learner. This question mainly focused on the preferences of recordings using, and how they were used.

Nearly all participants preferred to listen to recordings from pianists before learning a new piece (5 out of 6), which means that nearly all interviewees admitted

the importance and benefits of recordings. Besides, though there was only one interviewee mentioned that they won't listen to recordings from pianists before forming their own interpretations of the pieces.

Participant C: ".....I will do it when I can't control well of rhythm or I have no idea about my practice....."

Participant D: "..... While learning a new piece, starting with the playing of pianist could be helpful to construct a general idea of the music....."

Participant E: "It depends on the music score. I will choose to listen to recordings when I feel confused about how the pieces sound like."

Inner hearing is one of the most basic music abilities to a musician. But it could be different to different people. Three participants explained that listening to recordings of pianists could help them know the music as quickly as possible.

Participant A: "First of all, I will search for several well-known, distinctive and high-quality versions for the comparison between each performance version and the analysis of the performance characteristics....."

Participant B: "The first thing I will do is to listen to various versions recording from famous pianists....."

Participant C: "As for me, I always concentrate on the musicality and rhythm from the pianists. Sometimes recording gives me what I can module during my practice."

Participant F: "It provides a different way to know the piece. By comparing different versions of performances, I find diverse way to play."

As shown above, these participants used more than one recording at one time, and compared multiple versions in different dimensions. This could be a thoughtful way to avoid overly original interpretation from those famous but "weird" and bold musicians. It is a hard work to balance tradition and originality.

*Question 8: Do you record your playing in the practice?*

*Question 9: How do you use your recordings?*

*Table. 4 When do you record your playing?*

<i>While the piece could be relatively entirely played</i>	<i>Before piano lessons</i>	<i>Feel confident of playing</i>
<i>3</i>	<i>1</i>	<i>1</i>

Recording one's playing is thought to be an efficient way to reflect and review. While replaying the recording, many details could be seen, which were ignored during performance.



Participant A: “After listening to the recording, I can find out a lot of problems, which is helpful to adjust my playing. And it is an excellent practice method.

Participant B: “I’m very strict and picky to myself. So I would think about my performance again and again. I never just record my piano playing once. On the contrary, I often find some details that I can do better, so I play and record it again. To be honest, I can find new problems every time.....”

Participant C: “I can hear my own mistakes by listening to the recording. For example, which sentence I did not play well? Which details are not good enough? Whether the phrase strength is contrasted? And how the melody felt like? These are quite easy to hear via recording, and they will affect my own feelings of my playing improvement.

Participant F: “.....I can get many surprising details via recording. Especially when I am confused with some parts from the pieces, recording helps me to figure out which one is my favorite.”

Also, as what was shown in Figure 3.1, they chose different time to record. Three participants suggested that they would record while the piece was relatively completed. One said that they recorded before piano lessons, and another said they might record when they felt confident in their playing.

## **6. Preliminary Findings**

Daily practice routine is thought to be a way of organizing practice. Even though many students had formed their own routine already, there are still students who randomly assign and plan their practice. Among those who have their special routines, there are similarities and differences that might relate to the final practice outcomes in different aspects. It doesn’t show clearly that whether a piano player has a daily practice routine or not would impact their practice.

While facing a new piece, students tend to start from the general idea of the piece, though sight-reading or listening to pianists’ recordings. It takes different steps for different students to finish a relatively complete piece. Also, students with different practice process held different perceptions about the focus of their practice. Different emphasises might lead to different outcomes.

Recordings, as an important way to maintain a live performance, helps students a lot during their practice. On the one hand, recordings of famous pianists help students to form the general idea of the piece, and provide the chance for students to learn the detailed interpretation and articulations by themselves as well. On the other hand, students record their own performance formally or informally, and learn from the replay. It also could provide the listening experience as their own audiences, and to know how their performance sound to other people.

Even being asked their practice styles or preferences, students recognize their teachers as important standards of practice. The one-to-one piano lessons are thought to be critical to their practice planning and organizing.

## 7. Review and Reflection

So, if we want to continue researching, what should we do in later research? We think there are three points that need attention.

Firstly, although we have worked hard to collect samples that fit our vision, we still have not controlled some variables. For example, these students are all piano majors, but they are of different grades and have different piano ages, and even under the same piano age, some people are admitted to the Conservatory of Music from a small professional system, but some are breakthrough studies in the college entrance examination Passed. So does the Mighty One affect practice efficiency? There are also some differences between freshman students and senior students, because age and practical experience will hone people's personality, and freshman students are often less mature than senior students. So, will the degree of maturity affect the practice efficiency? For another example, in the interview, we did not set restrictions on them or asked them some precise designated questions. "If you have three hours of practice time, what would you do?" "Will the piano during practice have an effect on your practice efficiency?" And so on. Another point is, if they arrange an event immediately after the planned practice time, will it affect their practice? These variables need special attention in our subsequent research. Only by controlling some variables in detail can our research be more reliable. Only by controlling all variables outside the independent variables that can cause the dependent variable to change, can the cause and effect relationship in the experiment be clarified.

The second point is mentioned in the third part of the previous article. Students have different feelings about recording while practicing. Some people think that recording can improve their practice efficiency, while others do the opposite. They feel that recording connection is a painful process. Let's first discuss how recording affects contact efficiency. Some interviewees mentioned that they would feel nervous when recording, fearing that they would make mistakes when recording, and the level and state of recording were much lower than the practice of not recording. This kind of psychology is more complicated. It is said that the recorders are worried that they will hear their mistakes when playing back the recording, and the recording will record their mistakes, which undoubtedly makes them very nervous. At the same time, they will become more nervous about the paragraphs or details that they are not familiar with, and they will even pause each time. This will likely cause a psychological shadow to their practice, and of course, they will hone their will. If they could play perfectly on a recording with tension, he would have nothing to fear. But some classmates are just the opposite. Not only will the recording connection not make them nervous, it will also allow him to practice very intensively and practice more seriously, thus improving the efficiency of piano practice. As everyone knows, practicing piano is to better play on the stage. Stage anxiety sometimes comes from unskilled practice, but there are also many psychological factors. Some people perform very well during practice, but when they perform, they become very nervous, affecting the performance and even interrupting the performance. Then we can guess that for those who will be more

focused when recording, will they be able to properly overcome the tension and anxiety of the stage by recording this way during the stage performance? Because when we perform on the stage, most of them have video or audio recording. If they think they are practicing, and they are recording as usual, can they perform well? On the other hand, if you are nervous about recording and video recording, can you practice your own stage performance mentality through the usual practice of recording? Then recording exercises would be a great way. We think this point needs to be explored more deeply, because it is very useful for our research purpose.

Finally, we are still interested in the cause of their piano training habits. For example, where do these habits come from? Are they from personal exploration or from the influence of teachers, or from academic research or classmates? We can study the cause of the practice habit from the source, which will have a profound impact on our research purpose, that is, how to practice piano efficiently. Therefore, our future research can focus on these directions. We have found in this research that many people mentioned the influence of teachers, or the influence of teachers of Enlightenment, which made them develop some habits from childhood. Some of their enlightenment teachers told them that they should first listen to some demonstration versions, familiarize themselves with music scores, and then start practicing, which helps to control the overall practice; some students said that the teacher thinks that they should know music scores first, and they are familiar with fingering, Then try to grasp the overall feeling of the tune; some students said that the teacher demonstrated to them before starting their own practice. But in either case, they are used to practicing a new song in the way taught by the teacher. There are others who are more casual, do not have a fixed practice method, do not know how to develop contact methods, and do not even know the effect of the practice method on their piano practice efficiency. They are used to practicing by feeling, and often practice the simple passages in the tune first. This is also an exercise habit, although it may not sound desirable. There are also more exotic practice methods, let us guess whether they are influenced by some philosophical or aesthetic theories. For example, they like to think of themselves as composers or the most famous people who play this song when practicing, so that they can give themselves enough confidence to persist in practice. So what are these reasons? Why are some people more adept at accepting others' piano training methods, while others are not? Is it really different from person to person? We can explore systematically in future research.

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