

A Topographical Approach to Teaching Scales for Piano Teachers

Jacob Womack¹

Abstract

This scholarly article illuminates how piano pedagogues can benefit by teaching scales from a keyboard perspective rather than from a theoretical viewpoint. Through years of teaching scales in both group and studio settings, this author has developed a method of teaching scales that yields quick results, accurate notes and fingering, and fluent playing, all through a topographical approach to the instrument.

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Introduction

For many piano instructors, teaching scales to a student usually comes within the first two years of lessons. A common approach to teaching scales on the piano is to start with the keys that have the fewest flats or sharps and work around the circle of fifths until all major and minor keys are covered. Although this method makes sense from a theoretical standpoint, it can often leave the student frustrated and confused in regards to playing scales with correct fingering.

Chopin emphasized the “keyboard’s proper relationship to the physiology of the hand” in regards to introducing technique to students. Chopin proposed teaching scales from a piano-centered approach rather than a music-theory approach.²

¹ Instructor of Music and Collaborative Pianist at Concord university

² David Korevar, “Chopin’s Pedagogy: A Practical Approach” (Presentation, Music Teachers National Association National Conference, Albuquerque, NM, March 20, 2010).

It is useless to start learning scales on the piano with C major, the easiest to read, and the most difficult for the hand, as it has no pivot. Begin with one that places the hand at ease, with the longest fingers on the black keys, like B major for instance.

Chopin made his pupils begin with the B major scale, very slowly, without stiffness.

The scales with many black keys (B, F#, and D \flat) were studied first, whereas C major, as the most difficult, came last.³

Chopin's approach to teaching scales was based on what the student actually needed to know in order to play the piano and centered around the idea of developing hand positions in a natural way. He writes:

Find the right position for the hand by placing your fingers on the keys E, F#, G#, A#, B: the long fingers will occupy the high keys, and the short fingers the low keys...this will curve the hand, giving the necessary suppleness that it could not have with the fingers straight.⁴

Chopin also suggested that beginning with the B, F#, and D-flat scales better facilitated the passing of the thumb.⁵

The purpose of this article is to provide piano instructors with a method to teach scales that encourages students to play hands together immediately, fluently, with accurate fingering, and from a keyboard or topographical⁶ approach. First, an overview of when it is appropriate to introduce scales in piano teaching is presented. Second, a proposed order for teaching scales is given. Finally, a method for introducing scales to students is discussed.

Body of Text

One of the biggest challenges a piano instructor faces is identifying when a student has a sufficient theoretical background and technical facility at the keyboard to begin playing scales. Many piano method books introduce scales midway to later in their series and give teachers guidance on when it is appropriate to do so.

From a theoretical standpoint, a student should have a sufficient understanding of intervals, whole and half steps, and tonic and dominant. Five-finger patterns are an excellent vessel to introduce these theoretical concepts, and quite often piano method books use these in the early part of their series.

³Jean-Jacques Elgeldinger, *Chopin: Pianist and Teacher as Seen by his Pupils* (Cambridge: Cambridge University Press, 1986), 34.

⁴Korevar, "Chopin's Pedagogy."

⁵Ibid.

⁶The arrangement of black and white keys on the keyboard.

From a technical standpoint, when a student has started to play repertoire that requires the pivoting and passing of the thumb for a legato touch, it is an appropriate time to begin introducing scales on the piano. Mastery of five-finger patterns in all major and minor keys is an excellent technical skill to have before playing scales as this promotes and aural conception of major and minor tonalities and the visual arrangement of black and white keys within a given key.

One of the fallacies of teaching scales to piano students is introducing them hands separate. Although teaching scales hands separate temporarily reduces the complexity of learning individual fingering and notes, it can leave the student frustrated, overwhelmed, and without a clear strategy on how to play them hands together.

The approach to teaching scales, discussed in the next section of this document, emphasizes several principles. First, teach scales hands together from the start. Second, introduce scales away from the book. According to the highly regarded American piano pedagogue, Frances Clark, “When scales are introduced, students should not read them. Scale practice is technique, not theory.”⁷ Keep the visual emphasis on the hands and keyboard, not the page. Finally, teach scales from a pianistic perspective. Using Chopin’s recommendations regarding piano technique, keyboard topography is the driving factor in the order scales are introduced. Furthermore, Clark states, “in scale practice, keyboard topography is of utmost importance when judging what is easy and what is difficult.”⁸

Next is a recommended order to teach scales at the piano and how to group them according to fingering. All discussion of minor scales in the document relates to the harmonic form.

Fingering for scales on the piano consists of four groups and this author has labeled them as: 1) “Thumbs Together” comprising of D-flat major, F-sharp major, B major, E-flat minor, B-flat minor, B minor, F major, and F minor; 2) “Tonic Arpeggiators” comprising of A-flat major, G-sharp minor, and C-sharp minor; 3) “Submediant Arpeggiators” comprising of E major, E minor, A major, A minor, D major, D minor, G major, G minor, C major, and C minor; 4) “Pairs and Trios” comprising of B-flat major, E-flat major, and F-sharp minor.

Considering the keyboard topography and fingering principles of the before mentioned scale groups, the following order is recommended for introducing scales to students: “Thumbs Together”, “Tonic Arpeggiators”, Submediant Arpeggiators”, and “Pairs and Trios”. Mastery of each scale group is paramount before moving to the next one.

There are three fingering principles that unify the eight scales (D-flat major, F-sharp major, B major, E-flat minor, B-flat minor, F major, and F minor) that comprise the “Thumbs Together” group. First, the thumbs play together every time. Next, the second and third fingers in each hand are associated with the set of two black keys. Finally, the second, third, and fourth fingers are associated with the set of three black keys. Although the many flats and sharps in the key

⁷Frances Clark, *Questions and Answers: Practical Advice for Piano Teachers* (Northridge, IL: The Instrumentalist Company, 1992), 108.

⁸Ibid., 109.

signatures for the “Thumbs Together” scales may seem daunting to the student, the black keys provide landmarks and anchors for the student which facilitates easy to remember fingering. Furthermore, these are the only eight scales in which the thumbs play together every time.

Within the “Thumbs Together” group, teach the D-flat major, F-sharp major, and B major scales first as they use all five black keys and therefore are the easiest for students to remember. When introducing these three scales, have the student begin by exploring the relationship of keyboard topography and fingering. Start with having the student play the scale in clusters of sets of two black keys, sets of three black keys, and thumbs together on white keys (Table 1). During this part of the exercise, always play the cluster in its entirety even if this means playing extra notes in the scale, it is important to build the concept of fingering relationships to the set of two and three black keys. This happens in the D-flat major and the F-sharp major exercise. Always have the student do this activity hands together for two octaves going from low to high and back to low.

Table 1.1. D-flat Major Scale Cluster Fingering.

	D \flat	E \flat	F	G \flat	A \flat	B \flat	C	D \flat	E \flat
RH	2	3	1	2	3	4	1	2	3
LH	3	2	1	4	3	2	1	3	2

Table 1.2. F-sharp Major Scale Cluster Fingering.

	F \sharp	G \sharp	A \sharp	B	C \sharp	D \sharp	E \sharp	F \sharp	G \sharp	A \sharp
RH	2	3	4	1	2	3	1	2	3	4
LH	4	3	2	1	3	2	1	4	3	2

Table 1.3. B Major Scale Cluster Fingering.

	B	C \sharp	D \sharp	E	F \sharp	G \sharp	A \sharp	B
RH	1	2	3	1	2	3	4	1
LH	1	3	2	1	4	3	2	1

After the student demonstrates competency in this exercise, have them unfold the scale. Requiring the student to use their thumbs together every time during cluster practice does create a problem when it comes time to unfold the B major scale as traditionally the fourth finger in

the left hand starts the scale and the fifth finger in the right hand is used at the top of the scale. However, the concept of the thumbs play together is important and in the initial stages of unfolding the scale it is recommended that the student continue to play thumbs together at all points in the scale.

The next two scales to teach in the “Thumbs Together” group are B-flat minor and E-flat minor as these scales lose one black key each: B-flat minor dropping one from the set of three, and E-flat minor one from the set of two. Again, begin with having the student explore the relationship of keyboard topography and fingering of these scales by using cluster practice (Table 2). When practicing the scale in clusters, continue to emphasize the concept of fingers 2, 3, and 4 play on the set of three black keys, and fingers 2 and 3 play on the set of two black keys by using the entire cluster affiliated with tonic. Students should always practice the cluster exercise hands together for two octaves.

Table 2.1 B-flat Harmonic Minor Scale Cluster Fingering.

	G \flat	A	B \flat	C	D \flat	E \flat	F	G \flat	A	B \flat
RH	2	3	4	1	2	3	1	2	3	4
LH	4	3	2	1	3	2	1	4	3	2

Table 2.2 E-flat Harmonic Minor Scale Cluster Fingering.

	D	E \flat	F	G \flat	A \flat	B \flat	C \flat	D	E \flat
RH	2	3	1	2	3	4	1	2	3
LH	3	2	1	4	3	2	1	3	2

When unfolding these two scales, have the student form the fingering of the starting cluster, but remind them to start the scale by playing tonic.

Next, introduce B minor as it loses one black key from both the set of two and set of three black keys (Table 3).

Table 3 B Harmonic Minor Scale Cluster Fingering.

	B	C \sharp	D	E	F \sharp	G	A \sharp	B
RH	1	2	3	1	2	3	4	1
LH	1	3	2	1	4	3	2	1

As with the B major scale, using the thumbs together every time during cluster practice creates a problem when it comes time to unfold the scale. Continue playing thumbs together at all points in the scale to reinforce the concept of thumbs play together and to avoid fingering confusion. When the student is ready, introduce the traditional fingering used in the left and right hands on tonic.

The final two keys to present the student from the “Thumbs Together” group are F major and F minor in that they have subtract the most black keys (Table 4).

Table 4.1 F Major Scale Cluster Fingering.

	F	G	A	B \flat	C	D	E	F
RH	1	2	3	4	1	2	3	1
LH	1	4	3	2	1	3	2	1

Table 4.2 F Harmonic Minor Scale Cluster Fingering.

	F	G	A \flat	B \flat	C	D \flat	E	F
RH	1	2	3	4	1	2	3	1
LH	1	4	3	2	1	3	2	1

Unfolding the F major and F minor scales creates a similar problem that the B major and B minor scales have in that the left hand should start with the fifth finger and at the top of the scale the right hand should use the fourth. As in the case with the B scales, initially continue to use the thumbs together at all points in the scale when unfolding the clusters.

After completing the “Thumbs Together” group, have the student learn the scales of the “Tonic Arpeggiators” set which consists of the following keys: A-flat major, G-sharp minor, and C-sharp minor. A noteworthy feature of the “Tonic Arpeggiators” group is that the keyboard topography for all three scales is the same: black, black, white, black, black, white, and white. The underlying fingering principle in these scales is the first and third fingers outline the notes of a tonic arpeggio, hence the nickname for this group (Table 5).

Table 5.1 A-flat Major Scale Fingering.

	Black	Black	White	Black	Black	White	White
	A \flat	B \flat	C	D \flat	E \flat	F	G
RH	3	4	1	2	3	1	2
LH	3	2	1	4	3	2	1

Table 5.2 G-sharp Harmonic Minor Scale Fingering.

	Black	Black	White	Black	Black	White	White
	G#	A#	B	C#	D#	E	F*
RH	3	4	1	2	3	1	2
LH	3	2	1	4	3	2	1

Table 5.3 C-sharp Harmonic Minor Scale Fingering.

	Black	Black	White	Black	Black	White	White
	C#	D#	E	F#	G#	A	B*
RH	3	4	1	2	3	1	2
LH	3	2	1	4	3	2	1

There is a four step process to use when introducing these scales. The A-flat major scale is used as an example to illustrate this teaching method. First, have the student play only the notes of the tonic triad in succession from low to high and back to low, hands together, as this is where the first and third fingers play together [Ex. 1]. The student should do several successive repetitions of this exercise to build muscle memory and to establish a reference point for fingering once they begin to play the entire scale.

Example 1 A-flat Major Scale Exercise Part I.

	A \flat	C	E \flat	C	A \flat
RH	3	1	3	1	3
LH	3	1	3	1	3

The next step in this process is to add the second scale degree to the previous exercise. Have the student play in succession from low to high and back to low, hands together, scale degrees one and two together as a cluster, A-flat and B-flat in the key of A-flat major, while continuing to play only the first and third fingers on the remaining notes of the tonic triad [Ex. 2]. The focus should stay on keeping the first and third fingers together on the notes of the tonic triad.

Example 2 A-flat Major Scale Exercise Part II.

	A \flat	B \flat	C	E \flat	C	B \flat	A \flat
RH	3	4	1	3	1	4	3
LH	3	2	1	3	1	2	3

The third step in this process is to add the fourth scale degree to the previous exercise. Have the student play in succession from low to high and back to low, hands together, scale degrees one and two as a cluster, scale degree three with the thumbs, and scale degrees four and five as a cluster [Ex. 3.]. Again, the student should focus on keeping the first and third fingers on the notes of the tonic triad.

Example 3 A-flat Major Scale Exercise Part III.

	A \flat	B \flat	C	D \flat	E \flat	C	B \flat	A \flat
RH	3	4	1	2	3	1	4	3
LH	3	2	1	4	3	1	2	3

Before moving to the final step, it may be necessary for the student to review steps one through three again to reinforce the concept that the first and third fingers outline the notes of the tonic triad. Once this is mastered, move onto step four. In the last part of this exercise, play the entire scale in clusters to reinforce the correlation of keyboard topography and fingering in these three scales. Scale degrees one and two which are black keys are clustered, scale degree three played alone with the thumb on a white key, scale degrees four and five together which are black keys, and scale degrees six and seven clustered which are white keys [Ex. 4].

Example 4 A-flat Major Scale Exercise Part IV.

	Black	Black	White	Black	Black	White	White
	A \flat	B \flat	C	D \flat	E \flat	F	G
RH	3	4	1	2	3	1	2
LH	3	2	1	4	3	2	1

Teaching the scales of the “Tonic Arpeggiator” group from a topographical or keyboard perspective rather than a notational and theoretical one facilitates quicker learning and better retention of fingering.

The next scale group to teach is the “Submediant Arpeggiators” which consists of the following keys: E major, E minor, A major, A minor, D major, D minor, G major, G minor, C major, and C minor. The underlying fingering principle in these scales is the first and third fingers outline the notes of the submediant arpeggio.

Teaching the major keys in this scale group before the minors is recommended. The first key to teach is E major as it has the same topography as the scales of the “Tonic Arpeggiator” group and therefore facilitates the learning for the student. After E major, continue introducing the major scales in this group through the circle of fifths, subtracting one sharp each time, until

completing C major. When introducing the minor scales in this group, start with the ones that contain the most black keys in the harmonic form and gradually work towards the ones with the fewest black keys: G minor, C minor, D minor, E minor, and finally A minor.

There is a multistep exercise to use when introducing each scale in this group, similar to that used in the “Tonic Arpeggiator” set. The E major scale is used as an example to illustrate this method. First, have the student play only the notes of the submediant triad, C-sharp minor in the key of E major, in succession from low to high and back to low, hands together, as this is where the first and third fingers play together [Ex. 5]. The student should do several successive repetitions of this exercise to build muscle memory and to establish a reference point for fingering once they begin to play the entire scale.

Example 5 E Major Scale Exercise Part I.

	C#	E	G#	E	C#
RH	3	1	3	1	3
LH	3	1	3	1	3

The next step in this process is to add the leading tone to the previous exercise. Students should always play this exercise in succession from low to high and back to low, hands together, scale degrees one and two together as a cluster, C-sharp and D-sharp in the key of E major, while continuing to play only the first and third fingers on the remaining notes of the submediant triad [Ex. 6]. The focus should stay on keeping the first and third fingers together on the notes of the submediant triad.

Example 6 E Major Scale Exercise Part II.

	C#	D#	E	G#	E	D#	C#
RH	3	4	1	3	1	4	3
LH	3	2	1	3	1	2	3

The next step in this process is to add the second scale degree to the previous exercise. Have the student play in succession from low to high and back to low, hands together, scale degrees six and seven as a cluster, tonic with the thumb, and scale degrees two and three as a cluster [Ex. 7.]. Again, the student should focus on keeping the first and third fingers on the notes of the submediant triad.

Example 7 E Major Scale Exercise Part III.

	C#	D#	E	F#	G#	E	D#	C#
RH	3	4	1	2	3	1	4	3
LH	3	2	1	4	3	1	2	3

Before moving to the next part of this exercise, it may be necessary for the student to review the previous steps again to reinforce the concept that the first and third fingers outline the notes of the submediant triad. Once this is mastered, move onto step four. In the last part of this exercise, add the remaining notes of the scale while continuing to play in clusters [Ex. 8]. The purpose of this step is to put an emphasis on which parts of the scale the thumbs play together and which parts they do not. For this step, have the student do this exercise from low to high and back to low in two octaves, hands together. Scale degrees six and seven are clustered, scale degree one with the thumb, scale degrees two and three clustered, and finally scales degrees four and five clustered.

Example 8 E Major Scale Exercise Part IV.

	C#	D#	E	F#	G#	A	B
RH	3	4	1	2	3	1	2
LH	3	2	1	4	3	2	1

The final step in this exercise is to transition the student from clusters to playing the individual notes. Since the student has become accustomed to starting on the submediant of the scale in the previous steps of this exercise, have the student first play the scale starting on the submediant going up for two octaves and back down. In a sense, the student plays the relative natural minor scale for the major key you are teaching (see example 8). After a few repetitions of beginning the scale on the submediant, have the student start on tonic. Having the student use their thumbs together every time on tonic during cluster practice does create a problem when it comes time to unfold these scales as traditionally the fifth finger in the left hand starts the scale and the fifth finger in the right hand is used at the top of the scale. However, the concept of the thumbs play together is important and in the initial stages of unfolding the scale it is recommended that the student continue to play thumbs together on tonic at all points in the scale.

The final scale group to teach is the “Pairs and Trios” which consists of the following keys: E-flat major, B-flat major, F-sharp minor. These three scales are the most challenging from a fingering perspective in that the thumbs never play together.

The name of this group comes from the correlation of keyboard topography and fingering. Fingers one and two play pairs of white keys and fingers three and four play pairs of black keys. The only exception is the B-flat major scale in that there is a ‘trio’ of white keys, F, G, and A, in which fingers one, two, and three play as a group.

The first two scales to teach in this group are E-flat major and F-sharp minor in that there is one spot in the scale where the third fingers play together giving the student a reference point: E-flat in the key of E-flat major, and C-sharp in the key of F-sharp minor. A significant challenge of the B-flat major scale is that at no point do any of the same fingers play together and therefore it is best reserved for last.

Introduce the three scales from the “Pairs and Trios” group by having the student first play the clusters of black and white keys to emphasize the fingering principle used. Have the student play the cluster exercises discussed in the next paragraphs hands together for two octaves starting from low to high and back to low. Only after the student has mastered the cluster exercise should they unfold the scale.

For the E-flat major scale cluster exercise, the student should start with playing only the third fingers on E-flat, then play the pair of fingers one and two on F and G, next the pair of fingers three and four on A-flat and B-flat, and finally the pair of fingers one and two on C and D [Ex. 9].

Example 9 E-flat Major Scale Cluster Exercise

	E♭	F	G	A♭	B♭	C	D	E♭
RH	3	1	2	3	4	1	2	3
LH	3	2	1	4	3	2	1	3

In the F-sharp minor scale cluster exercise, the student should start with the pair of fingers three and four on F-sharp and G-sharp, then play the pair of fingers one and two on A and B, next the third finger on C-sharp, and finally the pair of fingers one and two on D and E-sharp. [Ex. 10].

Example 10 F-sharp Harmonic Minor Scale Cluster Exercise.

	F#	G#	A	B	C#	D	E*	F#	G#
RH	3	4	1	2	3	1	2	3	4
LH	4	3	2	1	3	2	1	4	3

For the B-flat major scale cluster exercise, start with finger four in the right hand and finger three in the left hand on B-flat, then play the pair of fingers one and two on C and D, next right

finger three and left hand finger four on E-flat, and finally the trio of fingers one, two, and three on F, G, and A [Ex. 11].

Example 11 B-flat Major Scale Cluster Exercise.

	B \flat	C	D	E \flat	F	G	A	B \flat
RH	4	1	2	3	1	2	3	4
LH	3	2	1	4	3	2	1	3

Conclusion

One of the disadvantages of starting students with the D-flat major, F-sharp major, and B major scales is that they rarely coincide with the key signatures of the literature used in most standard beginning and intermediate piano method books. However, teaching scales away from the book helps develop students that better understand fingering principles and lays the groundwork on how to apply them to as they advance as a pianist.

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