Available Online: 17 November 2026 DOI: 10.54254/2753-7080/2026.39160

A study of performing techniques in Czerny's *The Art of Finger Dexterity*, Op. 740

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Abstract. In piano teaching, etudes help players refine their playing skills by repeatedly practising specific notes and musical passages. This study takes Carl Czerny's *The Art of Finger Dexterity* (Op. 740) as its subject and combines a review of the literature, performance practice and inductive analysis to examine and classify selected playing techniques, focusing on performance approaches to octave, double-note and arpeggio techniques. It examines the key performance requirements and training methods for these techniques and explores their application in other piano works, with the aim of helping piano learners overcome common technical difficulties and improve their playing skills.

Keywords: Carl Czerny, etudes, technique, piano performance

1. Introduction

Etudes are musical works specifically designed to train particular playing skills. Unlike basic technical exercises, they integrate technical training with music, enabling learners to develop musical perception while refining specific skills. Therefore, etudes play an important role in piano teaching.

Carl Czerny (1791–1857) was born in Vienna, Austria. He studied piano with his father at the age of three, began studying with Ludwig van Beethoven at the age of ten, and started teaching piano at the age of fifteen. Throughout his compositional career, he wrote a large number of etudes addressing different piano techniques. These works provide performers with systematic technical training materials and remain widely used in piano teaching and practice today.

Czerny's *The Art of Finger Dexterity*, Op. 740 (German: *Die Kunst der Fingerfertigkeit*; hereinafter referred to as Op. 740), comprises fifty etudes and is one of his masterpieces [1]. Its title reflects the collection's aim of developing finger dexterity through melodic etudes [2].

Op. 740 holds an important position in the development of piano technique. The collection contains a large number of difficult technical patterns, which go beyond the conventional technical practice of Beethoven's era. The technical difficulty of some passages is close to that of the works of Chopin and Liszt, including octave leaps, octave groups and large-span arpeggios [3]. This set of etudes is well suited to piano learners who are preparing to play Liszt's works and Beethoven's sonatas. It is also often practised alongside Chopin's etudes and Bach's *Well-Tempered Clavier* [4].

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This collection is an important bridge between the intermediate and advanced stages of piano study, covering the rich and diverse technical requirements of Classical and Romantic music. In terms of speed, sensitivity, strength, flexibility, accuracy and endurance, it poses a challenge to performers comparable to that of Chopin and Liszt's etudes [5].

While inheriting the tradition of classical music, Czerny was also influenced by the Romantic creative style. Therefore, his etudes are not merely technical training exercises but also possess musical and artistic value.

Based on the above characteristics, this study selects several etudes in Op. 740 for analysis, concentrating on octave, double-note and arpeggio techniques. Through technical classification and the analysis of performance practice, it examines the performance approaches and training methods for these techniques and explores their application in other piano works. The aim is to help piano learners overcome technical difficulties and develop the skills required to perform difficult works from different periods.

2. Results: analysis and application of key techniques

2.1. Octave technique

Octaves are common in piano music and an essential technique for pianists. Octave playing can be divided into broken octaves and octave double notes [6]. Broken octaves involve playing the two notes successively, either from low to high or high to low, rather than simultaneously [7]. Octave double notes involve playing both notes simultaneously with one hand.

Op. 740 contains five etudes focusing on octave techniques [1]. Nos. 8 and 20 practise broken octaves, while Nos. 33, 38, and 49 focus on octave double notes.

2.1.1. Analysis of broken-octave technique

No. 8 is an A minor etude focusing on light left-hand movements and broken octave technique.

Ascending and descending broken octaves appear frequently in mm. 17–20 (see Figure 1). When playing the octave, the wrist is slightly raised, which allows the hand to move more freely. With the third knuckle as the fulcrum, the hand is supported by the thumb and little finger; the force mainly comes from the upper arm, which drives the hand to complete the upward and downward movement.

When playing broken octaves continuously, you can adjust the fingering to ensure that the musical phrase remains uniform and smooth. Broken octaves on the black keys often use the 1–4 or 1–3 fingering patterns, while those on the white keys generally use the 1–5 fingering pattern. The other fingers should remain lifted to avoid accidentally touching the keys.



Figure 1. Example 1.1

A similar technique appears in mm. 85–87 of the recapitulation section of Beethoven's *Piano Sonata in C major*, Op. 2, No. 3 [8] (see Figure 2).



Figure 2. Example 1.2

No. 20 is a G major etude focusing on octave playing in both hands (see Figure 3). Its main challenge lies in octave leaps across three octaves. Each note must be played accurately and quickly, with particular attention to the fifth finger. The hands should prepare for the next leap immediately after each group of notes. A consistent touch helps keep the notes even and clearly articulated, while the fifth finger should bring out the upper notes with a bright tone.



Figure 3. Example 1.3

A typical example of this technique appears in mm. 42–48 of Liszt's *La Campanella* [9] (see Figure 4).



Figure 4. Example 1.4

2.1.2. Analysis of octave double-note technique

No. 33 is an A-flat major etude focusing on light and agile octave leaps. Its main purpose is to develop horizontal rather than vertical arm movement, helping pianists reduce tension when playing octaves.

At the beginning, movements should be organised into groups of six notes, starting from the note before each bar line (see Figure 5). The arm moves horizontally from the outside inward, maintaining a unified sense of breathing while avoiding excessive vertical movement.

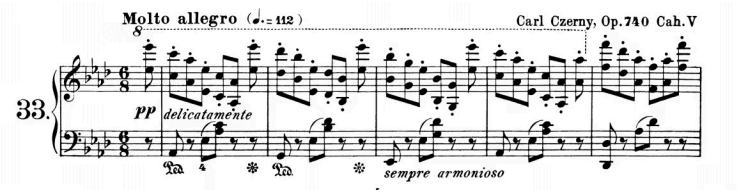


Figure 5. Example 1.5

In the passage where the octave and double notes alternate, the arm should move horizontally along the melody, instead of relying on gravity to press down. In this way, the arms can remain relaxed, which is especially important when octave passages occur repeatedly.

The final section of Rachmaninoff's *Étude-Tableau*, Op. 33, No. 6, also uses a similar performance idea: the left hand plays a series of octave jumps, relying on horizontal movement between the notes and accurate key placement to maintain musical consistency and make the melodic outline clearer [10] (see Figure 6).



Figure 6. Example 1.6

No. 38 is a B-flat major etude that mainly exercises continuous octaves in alternating hands, with almost no pause throughout the piece. This repetitive movement requires the hands to maintain a relaxed state while keeping a uniform rhythm.

Before playing, the hands should be properly prepared. Octave movements should be driven by the forearms, keeping the wrists and palms stable. The hands should maintain a supported position before striking the keys, with consistent sound and movement height between both hands (see Figure 7). The relatively calm passage in mm. 25–32 provides an opportunity to relax and release muscle tension.



Figure 7. Example 1.7

A similar passage appears in mm. 16–21 of the transition section in the first movement of Beethoven's *Piano Sonata No. 7* [11]. The ascending phrase builds towards the climax, with dynamics increasing from *p* to *ff*. Practising this exercise will help pianists develop the strength and tone clarity required to play such octave passages.

No. 49 is a G major etude that uses explosive broken octaves as its core technique, combining broken-octave and continuous passages with alternating hand movements. The frequent switching between playing techniques and hand positions makes this etude technically demanding, and performers must ensure both speed and tonal clarity.

When playing, the first knuckle should be firm and slightly bent, with the thumb and little finger providing support to ensure balanced sound. In the ascending and descending broken-octave passage, the palm, wrist and forearm should remain approximately in line, parallel to the keyboard. Although the wrists should be flexible, excessive movement should be avoided, as it may cause muscular tension.

In mm. 1–12, the left hand plays the octave melody, switching between ascending passages and large leaps. The arm drives the wrist to maintain consistent volume. Avoid pushing too early while also preventing unnecessary tension. From m. 13, the melody moves to the right hand, which requires the same control method.

Section B (mm. 21–28) has a continuous octave passage. A slight rotation of the wrist can make the connection between notes smooth; fingering is also very important here: the black keys usually use 1–4 or 1–3, and the white keys usually use 1–5.

In the ending section, both hands play the octave passage. Keeping both hands at the same height helps produce a balanced sound; gradually increase the dynamics towards the highest note, and keep your arms and wrists flexible. In longer passages, you can use short pauses to relax and prevent excessive muscle tension.

There are also a large number of similar octave passages in Beethoven's *Piano Sonata No. 7*. This kind of passage requires the arm to move freely and remain relaxed, and the wrist position should not be too high. An even touch and natural crescendo are also important for shaping the melodic lines.

2.2. Double-note technique

To play double notes, two fingers need to synchronise their key strikes and produce balanced volume. Using the palm and knuckles to support and stabilise the hand shape can help pianists control their performance. Repetitive exercises and high-finger training also help to improve finger independence and accuracy when striking the keys.

In Op. 740, double-note etudes can be divided into three categories according to the playing method: broken (Nos. 4 and 39), continuous (No. 10), and a combination of broken and continuous playing (No. 30) [1].

2.2.1. Analysis of staccato double-note technique

No. 4 is a B-flat major etude for the right hand, designed mainly to train light and relaxed staccato playing. There are frequent switches between double notes and single notes throughout the piece. It is necessary to plan the fingering in advance, coordinate it with small wrist rotations, simplify the movements and avoid unnecessary muscle tension. When playing chords, you can slightly highlight the upper note to make the melody line clearer.

Rachmaninoff's *Étude-Tableau*, Op. 33, No. 6, mm. 6–7, also uses similar ideas [10]: although the main melody is played by the left-hand octaves, the upper notes of the right-hand double notes also need to be highlighted, thus building an upward line and adding dramatic tension to the passage.

In m. 38 (see Figure 8), the right-hand melody switches between the upper and middle voices, and the point of contact with the keys also needs to be adjusted accordingly to control finger strength, highlight the melody and keep the accompaniment soft.



Figure 8. Example 2.1

No. 39 is a G major etude for the right hand, also focusing on thirds. The main difficulty lies in keeping the staccato notes clear and maintaining a consistent musical direction. Although the passage is marked *non legato*, the 3/4 metre means that the notes should still be felt in groups of three. Starting with slow legato practice can help establish this grouping and allow the wrist rotation to develop gradually (see Figure 9).



Figure 9. Example 2.2

Practising this passage with continuous playing can also help pianists focus on the upper melodic line played by the fourth or fifth fingers. This provides additional training for these two fingers and improves finger independence, key-striking accuracy and control of force. When returning to the staccato passage, the key is to produce a clean tone rather than deliberately creating a staccato effect. Using a slight wrist movement for each group of three notes can maintain the flow of music without causing unnecessary tension in the arms.

A similar passage appears in the eighth étude, "Hunting", from Liszt's *Twelve Transcendental Études* [12]. It includes staccato thirds, and the score is marked non legato (see Figure 10). This etude can help prepare pianists for the technical demands of that passage.



Figure 10. Example 2.3

2.2.2. Analysis of legato double-note technique

No. 10 is a C major etude for the right hand, designed mainly to train thirds. The double notes move continuously throughout the piece. It is not easy to produce uniform volume between the two notes and synchronise the key strikes, and changing the fingering is even more challenging. You can first practise each group of notes separately, using intermittent playing and lifting the fingers independently, before gradually moving on to continuous playing. This can help improve finger control. When playing at full speed, keeping the fingers close to the keys and reducing unnecessary movement makes it easier to produce a smooth and balanced sound.

Fingering changes are particularly challenging. From m. 17, during descending scales, when changing from fingers 1–3 to 2–4, the third finger should release early while the thumb remains on the key, allowing the wrist to move around the thumb quickly. In ascending scales, when changing from 2–4 to 1–3, the second finger should release early while the fourth finger remains in position. The wrist should not be too low and should follow the direction of movement.

When both hands move simultaneously, the right hand is more active, so greater attention should be given to the melodic line in the left hand. Its varying note durations require flexible phrasing and natural breathing. Once the right-hand technique is secure, the left-hand melody should receive greater musical attention.

In mm. 62–67 of Liszt's Concert Étude *La leggierezza*, the right hand also plays a series of rapid descending thirds [13]. Before increasing the speed, the appropriate fingering should first be established. It is helpful to slow down and stabilise each group of double notes, then gradually accelerate until the tone is uniform and the music is smooth and natural.

2.2.3. Analysis of the double-note drop-lift technique

No. 30 is an F major etude for the right hand, designed to develop a solid, resonant touch for double notes. The four fingers of the right hand should be prepared in advance before playing. When the second and fourth fingers touch the keys to produce a sound, the first and third fingers are raised in advance to prepare for the following notes. This continuous state of preparation should be maintained, even when there is a pause.

When the fingers are in a state of preparation, the arms should not become tense. If the muscles are too stiff or the fingers are not prepared in advance, it is difficult to strike the keys cleanly and accurately. When playing the broken double notes, you can slightly emphasise the upper note to highlight the melody.

A similar technique appears in the right hand in mm. 17–18 and the left hand in mm. 27–28 of Liszt's *Hungarian Rhapsody No. 11* [14], both featuring drop-and-lift thirds.

2.3. Arpeggio technique

The most important thing in playing arpeggios is changing fingering smoothly without interrupting the flow of the music. If the melody is hidden in the arpeggio texture, it is necessary to highlight it appropriately, using a different touch and degree of force from those used for the other notes. The phrasing of arpeggios and scales should also follow the direction of the melodic line, with natural dynamic gradation.

This section examines three representative types of arpeggio studies in Op. 740 [1]: right-hand arpeggios in Nos. 2 and 26, left-hand arpeggios in No. 12, and arpeggios played by both hands in Nos. 6 and 21.

2.3.1. Analysis of right-hand arpeggio technique

No. 2 is a G major etude for both hands, focusing on training thumb crossings and long strings of continuous arpeggio passages. The melody and its contour are carried by the other hand, so the arpeggio should follow the melody, and the touch should remain uniform and moderate. When practising, you can use three fingers as a reference to find the position of the remaining fingers; keeping the wrist level is also beneficial for stabilising the hand shape.

Each phrase should gradually become stronger towards the highest note, which is generally the centre of gravity of the phrase. The beginning and end of the phrase can be played more lightly, bringing out a natural sense of direction. The melody should be clear throughout.

In mm. 40–60, the left hand plays continuous arpeggios while the right hand provides steady chords, with the melody in the upper notes (see Figure 11). A similar technique appears in mm. 9–11 of Chopin's *Étude*, Op. 10, No. 8 [15] (see Figure 12). During performance, the melody should be listened to carefully, allowing the arpeggios to follow its direction.

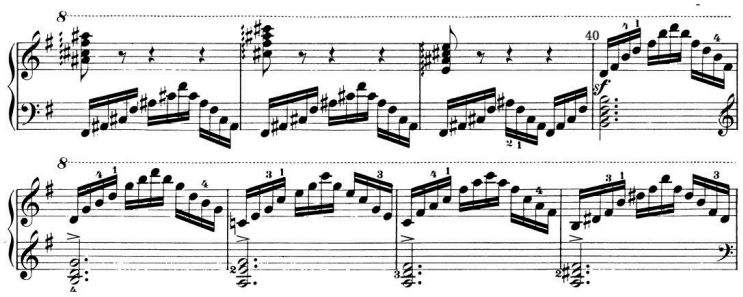


Figure 11. Example 3.1



Figure 12. Example 3.2

In mm. 61–68, both hands play running arpeggios. This passage should be light and agile, with the right hand slightly emphasised when both hands play the same texture to create greater clarity between the voices. A similar two-hand arpeggio technique appears in mm. 52–60 of Chopin's Étude, Op. 10, No. 8 [15], where the fingers must remain independent so that each note sounds clear and does not overlap with the next. A light

touch is equally important. Working on these techniques in Op. 740 can help pianists prepare for the technical demands of Chopin's concert études.

No. 26, in A major, is written for both hands and features rapid broken chords and continuous arpeggio passages.

In mm. 17–22, the arpeggios extend across three octaves and involve a large number of notes (see Figure 13). The palms should be moderately supported to allow the fingers to move more flexibly. To stabilise the rhythm, you can focus on the beginning and ending notes of each phrase. It is best to start practising slowly, following the rhythm in the score carefully and ensuring that each beat is accurate. After gradually increasing the speed, the rhythm should remain stable, while the natural contour of the melody should be retained.



Figure 13. Example 3.3

A similar technique appears in mm. 25–30 of Debussy's *Reflets dans l'eau* [16] (see Figure 14). The right hand plays continuous arpeggios, with a varying number of notes in each beat, including groups of thirteen and fourteen consecutive tones. The speed and rhythm of the whole passage should follow the melody of the left hand. Slow practice and careful attention to rhythmic accuracy are key to mastering this passage.

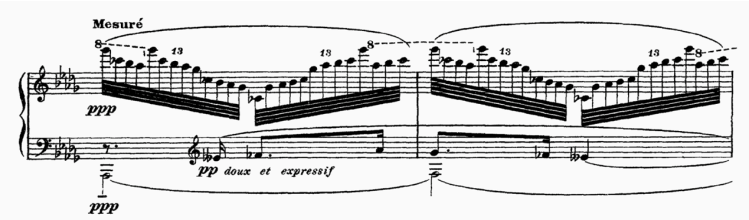


Figure 14. Example 3.4

2.3.2. Analysis of left-hand arpeggio technique

No. 12 is a D minor etude focusing on left-hand flexibility and agility. It features three different types of running patterns in the left hand. In mm. 39–47, each bar forms a single phrase. This kind of long-line arpeggio should be played coherently and smoothly, and the fingering must be switched naturally. A similar technique appears in mm. 51–52 of Debussy's *Reflets dans* l'eau, where a continuous left-hand arpeggio helps shape the flowing movement of the water [16].

2.3.3. Analysis of arpeggio technique in both hands

No. 6 is an A-flat major etude focusing on clear broken-chord playing in both hands. It contains six variations of arpeggio patterns. In mm. 1–15 (see Figure 15), the musical line passes from the left hand to the right hand. Each hand should prepare in advance while the other is playing. The upper arms should remain relaxed and open, with the fingers staying close to the keys.

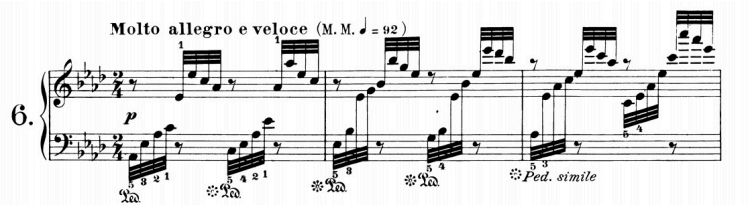


Figure 15. Example 3.5

A similar technique appears in mm. 49–50 of Debussy's *Reflets dans l'eau* (see Figure 16), where broken chords alternate between the hands [16]. The passage should flow continuously to convey the movement of water.

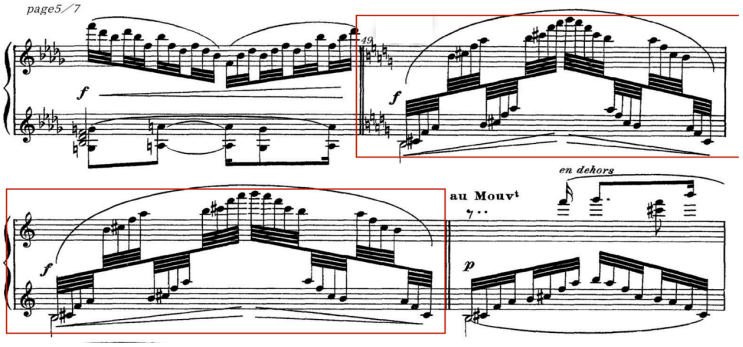


Figure 16. Example 3.6

The following passage contains a variety of technical changes: alternation between continuous and broken arpeggios, descending arpeggios, changes in phrasing and breathing, and arpeggios alternating with thumb crossings. When playing these passages, the wrist rotation should remain relaxed and work together with the finger movements rather than replacing them.

No. 21 is a D major etude focusing on coordinated movements between both hands. The right-hand voice is slightly prominent, and the left hand plays a supporting role. In this etude, long and short arpeggios alternate. Longer passages can use the pedal to connect notes and highlight the phrasing.

The last two bars of Chopin's *Étude*, Op. 10, No. 8 also have a similar technique, with both hands playing ascending arpeggios at the same time [15].

3. Conclusion

This study examines the core playing techniques in Czerny's *The Art of Finger Dexterity*, Op. 740. Based on personal playing experience, the author explores how to overcome the technical difficulties of selected techniques through practice, and how to apply the results to other difficult piano works. The article analyses various techniques and their practical applications, and explains their respective training points, providing practical references for piano learners.

References

[1] Czerny, C. (2003). *The art of finger dexterity, Op. 740*. People's Music Publishing House.

[2] Long, C. (2011). *Teaching guidance and research on Fifty Piano Études by Czerny, Op. 740* [Master's thesis, Hebei Normal University].
[3] Zhao, X. (2007). *The way of piano performance*. Shanghai Music Publishing House.
[4] Li, M. (2001). *Performance guide to Czerny's Op. 740: Studies in piano finger dexterity*. People's Music Publishing House.
[5] Yuan, Y. (2023). Czerny's Op. 740 études: A path toward musical and technical advancement. *China National Expo*, (7), 139–142.
[6] Han, M. (2018). On touch techniques for octave practice: Taking No. 49 of Czerny's Op. 740 as an example. *Home of Drama*, (23), 61.
[7] Nie, Y. (2016). On basic techniques of piano performance. *Art Education*, (4), 104–105.
[8] Beethoven, L. v. (1952). *Piano sonata no. 3 in C major, Op. 2, No. 3*. G. Henle Verlag.
[9] Liszt, F. (1916). *Grandes études de Paganini, S. 141: No. 3, La Campanella*. Breitkopf & Härtel.
[10] Rachmaninoff, S. (1914). *Études-Tableaux, Op. 33*. A. Gutheil.
[11] Beethoven, L. v. (1952). *Piano sonata no. 7 in D major, Op. 10, No. 3*. G. Henle Verlag.
[12] Liszt, F. (2004). *Twelve transcendental études, S. 139: No. 8, Wilde Jagd*. G. Henle Verlag.
[13] Liszt, F. (1998). *Trois études de concert, S. 144: No. 2, La leggierezza*. G. Henle Verlag.
[14] Liszt, F. (1853). *Hungarian rhapsody no. 11, S. 244/11*. Schlesinger.
[15] Chopin, F. (1963). *Études, op. 10*. G. Henle Verlag.
[16] Debussy, C. (1989). *Images, book 1: No. 1, Reflets dans l'eau*. G. Henle Verlag.