

# Brain + Body Learning at the Piano

## Katie O'Rourke

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## I. HOW WE LEARN

### i. Sensory Learning

To effectively learn piano, we need to keep in mind the physiological systems that make us human and how these systems impact our playing. Robots are pretty smart these days, but they can't play piano or achieve complex movement. Playing piano is exclusively for humans and we need to respect our nature as we study music.

The philosopher Jean-Jacques Rousseau had a deep understanding of the role our senses play in learning. This is from *Emile, or On Education*, written in 1762.

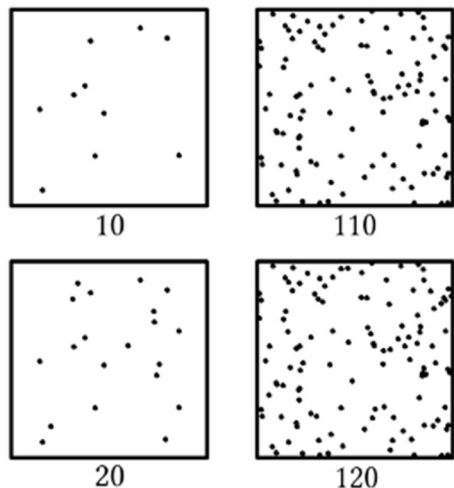
Since everything that enters human understanding arrives through the senses, the first reasoning of man is sensorial; that is the basis for intellectual reasoning.

Our first philosophy teachers are our feet, our hands, our eyes. To substitute books for all of that will not teach us to think, it teaches us to use the thinking of others. It mostly teaches us to believe the others, and to know absolutely nothing.<sup>1</sup>

Students often approach piano like book learning, forgetting about the sensorial nature of making music. The necessity of thinking deeply while also sensing deeply is one of the most important skills acquired in music practice, and maybe one of the most challenging. We must understand musical structures, but we also need to learn with our ears, eyes, and kinesthetic sense. Our end goal is to embody our musical intentions so that we ourselves are the instrument of expression. The piano just sits there lifeless, waiting to fulfill our dreams!

### ii. Learning with the Nervous System

We depend on a mind-body connection to play piano, as this connection allows us to turn musical thoughts into action. The balance of our nervous system will most certainly influence success in learning as it controls our sensory perception as well as muscle tone. I've observed many students play piano with so much tension and stiffness that they can barely make it through



a piece, and I've been that student too. It's not that we need to do something special to the tissues of our muscles to relax, but that we need to understand how the nervous system impacts sensory-motor action and sensory learning.

When we use our ears, eyes, and kinesthetic sense to play piano we are managing a lot of sensory stimulus, and how we manage this stimulus makes a difference in how we play. In the picture to the left, notice how much easier it is to see the change from 10 to 20 dots than the change from 110 to 120 dots. According to the Weber-Fechner law, a law regarding how we perceive stimulus, the perceived change in stimuli (10 dots in the both pictures) is

proportional to the initial stimuli (10 dots in the picture on the left and 110 dots in the picture on the right). The amount of change is the same, but it's more difficult to notice the change when the initial stimulus is high. This is true for our visual and kinesthetic senses and I also believe that it's true for our nervous system. If we quiet down our system, decreasing the initial stimulus, we will be able to sense more nuance in sound and movement while playing.

It's good to keep in mind that our own thoughts are a type of stimuli and some thoughts can actually act as a threat to our system. For many of us, these thoughts could have something to do with how hard we push ourselves, how badly we want to accomplish the task of playing, and how we critique ourselves in the process. Thoughts pass by quickly, and it can be difficult to notice how it all plays out in the moment. If we are willing, it can be helpful to deepen our awareness of the impact of our own thoughts. Actively quieting the mind before practice is a lovely way to explore this idea and there are many ways to use the breath, meditation, or gentle movement to do so.

### iii. A Non- Linear Process

I think it's important to respect the complexity of the task at hand. At the piano we must manage many conscious and unconscious actions, all at once. We can't possibly have a conscious awareness of every single thought, breath, eye movement, arm movement, finger movement, or sound that passes by as we play. Through practicing, actions that once were conscious move to the unconscious as we gain ease.<sup>2</sup> In addition to this, the conditions for learning will vary greatly depending on how we feel on any given day and the state of our mind in general. Our job is to observe these factors and adjust our learning strategies accordingly.

Moshe Feldenkrais, physicist and Judo master, developed a teaching style that accounted for our brain's natural ability to learn and optimize movement. I suspect that many successful pianists were taught using a similar process or perhaps discovered it on their own. In a Feldenkrais movement class, students are encouraged to bring simple movements into the conscious mind and to explore them in a gentle and playful way. The slow paced and playful approach encourages students to quiet their nervous system, allowing for many benefits, including an expansion of awareness, potential, and ease in movement. Our brain is hard-wired to optimize learning when we engage in a healthy and holistic learning process, but when we truly listen to ourselves and allow for experimentation, the path of learning may not be as straight forward as we would like it to be.

The learning process is more like a spiral. We repeat a process of setting goals, playing, observing, and evaluating many, many times. Each time we repeat this process we perform an approximation of what we hope to achieve in the end. After enough repetitions, some of our conscious thoughts and actions move into the subconscious. Changes will naturally occur each time we repeat, and we can also intentionally create variation



upon each repetition. Our brain automatically absorbs the sensory input, including any variation. Throughout practice we bring many different thoughts and actions in and out of our awareness in order to further refine our playing. In a way it's like we are calibrating ourselves as instruments of expression.

In *The Breathing Book*, Donna Farhi provides a beautiful image for this sort of learning process. In the book she is describing a method to increase awareness of the breath, but the process can also be applied to mind-body awareness in playing.

Imagine that you are becoming familiar with your body in the same way that you might come to know the layout of a new house, by walking through the same rooms and hallways over and over again. Keep looking and sensing from many different perspectives so that gradually a multidimensional picture comes into focus. Knowing *where* you are directing your awareness and *what* you are directing your awareness upon makes the investigation more enriching.<sup>3</sup>

### iii. Learning as an Adult

I've noticed that many adults are experts at the brute force method of learning. As adults we usually have a great deal of musical knowledge and can easily understand notation and rules that govern the musical system. This leads us to skip steps and trick ourselves into thinking we are getting closer to achieving our goals. Often times we're becoming smarter at music, but not necessarily better at playing piano.

Children aren't necessarily better at learning music; they just don't fuss over their own progress or push themselves so hard! As adults we also often have high standards for ourselves and a low tolerance for feeling lost or uncoordinated. We can, and must, learn to work with ourselves in a gentle and holistic way. It's possible to take something extremely complicated and break it down into digestible steps that we can easily assimilate over time. We did this as infants when we learned to walk and we can do this for ourselves now as we learn to play piano.

## II. LOOKING FOR CLUES

### i. Eyes

The way we use our eyes is inextricably linked to overall sensory-motor function. The use of eyes in music reading is so complex and compelling that there is an entire [Wikipedia article](#) on the topic. [Click here](#) for a fun video of pianist's eye movements.

I often observe students attempting to visually track an impossible number of things as they play. Ease in playing usually improves as soon as the visual stimulus is reduced. If our eyes are attempting to track many, many things all at once, we become overstimulated and our performance suffers. The benefit of calming down the eye movements is well documented and in sports psychology there is a concept called "quiet eye." It is described here in an article titled "What Athletes See."

The concept, known as the quiet-eye theory, is deceptively simple: Before you perform an action, you focus your gaze on the salient aspects of your goal—the rim, the catcher’s mitt, the malignant tissue, and so on. In recent years, using eye-tracking technology, researchers have found that locking onto the relevant stimulus during the right time frame—typically the few hundred milliseconds before, during and after the movement—greatly improves your chances of success.<sup>4</sup>

Students often have aha moments when I ask them to quiet their eye movements as they play and I’ve experienced some big improvements from my own experimentation with this idea. For the past year I have been undergoing treatment for an eye movement disorder that I was unknowingly dealing with for my whole life. Since I began treating the eye movement issue, I have found a greater sense of ease in my playing and done many things that were previously impossible due to limitations in my vision and my movement. I can sometimes instantly find more ease in playing, just by changing where I look.

As part of my physical therapy, I have been asked to practice right to left reading. The paragraph below explains the benefits of this, but you need to read from right to left to find out. You might need to read it a few times to fully grasp the meaning.

balances and learning cognitive precedes learning system nervous Autonomic  
a includes It skill. a of learning the to prior systems parasympathetic and sympathetic  
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tension muscle reducing in assist should demands reflex motor-ocular-vestibular new and  
neck. and head my of<sup>5</sup>

You can achieve these and other benefits by experimenting with the eyes and challenging your habitual patterns of movement.

- Play with eyes closed. Play in a dark room or blindfolded.
- Keep your head centered and looking forward.
- Look around the room when you play.
- Use your peripheral vision.
- Read the score and don’t look down. Read ahead in the score. (Try the [Read Ahead app](#) for iPad)
- Reduce the number of things you visually track while playing. Take inventory of the places you must look. Watch only one hand.

## ii. Breath

If you can maintain a consistent, gentle breathing pattern while playing then you are setting yourself up for success! I heard pianist Andreas Schiff play with Seattle Symphony last year in a beautiful and expressive performance of three concertos. You could feel his sense of calm even from thirty rows back. There is no doubt that Schiff is a Jedi-master of breathing, and this is what he says about it:

For me, it is breathing that is vital. You must breathe naturally, like a singer. Pianists and string players often tend to forget the necessity of breathing and they can become very tense; then they get back pains and wrist pains and so on. Usually it can be sorted out through the breathing.<sup>6</sup>

Breathing is so automatic that it might feel frustrating to hear that you're not doing it right. If you are alive, then you are doing a good enough job breathing. However, if you want to improve your performance, then it's worth it to take a deeper look. It may also be good for your overall health.

Here are ways to explore breathing in piano practice and in life:

- Start a short and simple breathing practice. I liked the exercises in [The Healing Power of Breath](#).<sup>7</sup> I haven't completed *The Breathing Book* by Donna Farhi yet, but so far I really love it and highly recommend it.
- Observe the quality of your breath while you play.
- Coordinate your breath with the meter while you play. I was taught to breathe out on downbeats and in halfway through the measure. This works very well, but isn't the only strategy. Experiment with different breathing patterns while playing.

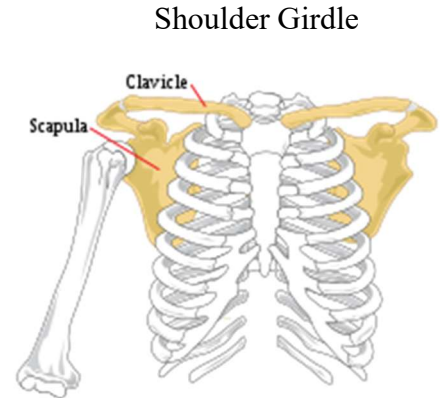
## iii. Jaw

You don't need to clench or grind your jaw while you play piano, although it happens all the time even among professional pianists. A tense jaw while playing is an obvious sign of stress! So, I implore you:

- Check in with your jaw periodically. If you notice jaw tension while playing then change your practice strategy ASAP. Do less, go slower, and take more breaks.
- Try chewing gum as you play to give your jaw a job to do.
- If you struggle with jaw tension in general, do something nice for your jaw like [this](#) Feldenkrais movement lesson.

#### iv. Shoulders and More

Growing up, my parents and teachers constantly nagged me about my shoulders. I heard “put your shoulders down” so frequently that I just quit trying because I didn’t actually know *how* to put my shoulders down or even *what* my shoulders really were. The shoulder girdle is comprised of the shoulder blades, clavicle, and the joints that attach those parts. (The highlighted parts in the picture to the right.) The shoulder girdle should rest on top of the upper ribs and remain free to make adjustments while you play. Raised shoulders are a sign of stress and possibly a sign of breath holding.



- Check in with your shoulders periodically. If they are raised near your ears then change your practice strategy ASAP. Do less, go slower, and take more breaks.
- Notice how your shoulder blades and clavicle bones move and respond to the position of your arms and wrists as you play. You may not feel a lot, but it *is* possible to sense the movement.

You may have places other than breath, eyes, shoulders, or jaw that you tend to hold tension. Holding, squeezing, or pain anywhere in the body is likely a sign that the demands of playing are higher than what your system can handle at the moment. It’s best to change your strategy to prepare the nervous system for optimal learning.

### III. PRACTICE STRATEGIES THAT *ALWAYS* WORK

#### i. Use Your Imagination

Guided imagery is a popular form of meditation, and the act of visualization itself may be calming to the nervous system. As we play through a passage in the imagination, the brain performs the same complex, neuro-musical-muscular activity as if we were actually playing. In the imagination we can play with more ease and accuracy and engage with our expressive intentions at a deeper level. In our imagination we are free from the stress of hearing wrong notes, so it is really a safer and more comfortable form of practice. We can let go of our inner critic.

Most of us don’t spend all day sitting in front of a piano, so imaginary practice allows us to quickly run through parts of our pieces when we are away from the piano. Frequent and quick review of the music we play is highly beneficial to learning. I learned a piece entirely away from the piano after reading about a concert pianist who would begin practicing in the imagination first, maybe even for months at a time. He would only touch the piano after he could clearly imagine every detail of his desired interpretation. This approach really works, and even beginners can utilize this technique. This excerpt from a short story published in the New Yorker

tells how Demetrius Cunningham learned to play on a cardboard piano while in prison so that he could accompany the prison church choir.

Every time I got a new cellmate I would warn him, “Don’t be alarmed. I have a cardboard piano that I play.” I had one cellie ask me to teach him to play. First, I showed him that music is alive and always moving. But, when we sat down on our bunk beds to learn the mechanics, he lacked the focus and the imagination to learn on the cardboard piano. He lasted only a couple of weeks. I practiced for hours on end, to the point where I developed calluses on my fingers. Every couple of months, I needed to make a new piano because of the wear and tear from my practice sessions. After going through five keyboards, I made a heavy-duty keyboard by tripling the materials. It has lasted over five years.

I was making progress. Every Sunday, I got to try what I’d learned on a real piano, but I’d be so nervous that my hands would shake and I’d hit the wrong keys. To hide my mistakes, I’d play softly and let the voices of the choir cover it up. I preferred playing the cardboard piano in the privacy of my cell. <sup>8</sup>

It makes sense to be nervous in performance after exclusively practicing in the imagination, but in addition to other practice methods this is an invaluable tool. Mental rehearsal is one of the cornerstones of sports performance psychology because it consistently improves performance. This strategy increases confidence, accuracy, and ease and allows us to engage more deeply with our aural image of the music we play. This strategy also makes gaps in our learning more obvious, so that we can focus on strengthening the weak spots. We don’t need to play competitively to reap the benefits of mental rehearsal. Finding ease and enjoyment in music making is for all people, not just those that call themselves artists, and not just those who perform.

Experiment with these different forms of mental rehearsal:

- Always imagine the sound in mental rehearsal, as this hones your aural image of the piece.
- Imagine the sound along with all of the interpretational elements. Imagine the shapes of phrases, tension-resolution relationships, mood, and energy.
- Imagine the movements of the arms only, without engaging the fingers.
- Imagine the movements of the fingers and arms.
- Practice playing on a hard surface, like a table or the key cover of your piano.
- Do these things while reading the score and also from memory.
- When playing, imagine the sound of each note before you press the key.

How we perceive our skill level and ability also impacts learning and performance. If you imagine that you will be able to do something and work with yourself in a kind way, then most



likely you will accomplish it.<sup>9</sup> Matt Goodrich, an Alexander Technique practitioner, presented this sequential performance process in a workshop I attended last fall.

I coordinate. I can play my instrument. I can make the music. I can invite the audience on a journey. So that I can welcome the energy I need to perform. So that I know I'm always freely choosing.<sup>10</sup>

This is an excellent way to think about performance and to set the stage for learning, even if you are playing for an audience of one. You must believe that any limitations you experience in playing are temporary and work with a growth mindset.

## ii. Abandon the End Goal

The correct way of playing piano occurs naturally when we foster a deep connection with ourselves, our musical ideas, and our anatomical potential. Wanting very badly to do something perfectly will impose unnecessary limitations on learning. Optimal learning occurs when we feel free to explore and to play in any way that suits us in the moment. The only guiding principle is to look for ease in movement and find sounds that you enjoy.

- Try playing incorrectly on purpose if you are struggling with perfectionism. Playing the wrong notes or rhythms can be informative and freeing, especially when the mistakes are played intentionally and mindfully
- Shift your focus to a smaller section or smaller goal.
- Shift your focus to refining your interpretation and expressive intentions for a small section.
- Allow yourself to engage in a messy learning process. Goofing off is okay! Experiment with sound. Ask questions and wait for the answers to come to you. Allow learning to unfold naturally.
- It *does not matter* if you play through the whole piece or meet your practice goals for the day. Have faith that your time spent exploring will provide the end results you are looking for.

## iii. Experimentation and Variation

Experiment in a playful way with variations on rhythm, articulation, color, energy, touch, and musical shaping. You are an explorer in the world of sounds. Go off the beaten path and improvise. Listen deeply and enjoy the sounds you make. You are learning something very important as long as you follow your curiosity and use your senses to observe the results!

Practicing with variation is highly effective, [supported by research](#) and is a popular topic in the music world at the moment. According to a recent non-music study, a test group that practiced with changes upon each repetition, learned their kinesthetic task twice as fast as the other groups!<sup>11</sup> Create variation by changing rhythms, meter, emphasis, dynamics, shaping or anything else you can think of.

#### iv. Embody the Music

A definition for the word *embody* is to “be an expression of or give a tangible or visible form to an idea, quality, or feeling.” When we play piano, we are giving a tangible form to many abstract ideas and feelings, and we need to connect with them internally. Often students just think the music in their minds because they haven’t yet learned how to feel the music.

Near the end of the twentieth century, Emile Jacques-Dalcroze noticed that many conservatory trained musicians were giving performances that were shallow and lacking in expression. They also struggled technically and with depth and nuance in rhythmic understanding. To address this problem, he created a method of music education centered around training the body as the instrument. Dalcroze believed that an internal sense of musicality should be developed prior to picking up an instrument and formed his method around this idea.

For the body can become a marvelous instrument of beauty and harmony when it vibrates in tune with artistic imagination and collaborates with creative thought. It is not enough that, thanks to special exercises, students of music should have corrected their faults and be no longer in danger of spoiling their musical interpretations by their lack of physical skill and harmonious movements; it is necessary in addition to the music which lives within them - artists will understand me - should obtain free and complete development, and that the rhythms that inspire their personality should enter into intimate communication with those which animate the works to be interpreted.

The education of the nervous system must be of such a nature that the suggested rhythms of a work of art induce in the individual analogous vibration, produce a powerful reaction in him, and change naturally into rhythms of expression. In simpler language, the body must become capable of responding to artistic rhythms and of realizing them quite naturally without fear of exaggeration.<sup>12</sup>

Here Dalcroze is expressing the necessity of learning music through the senses, not just in the mind. We must learn to feel the rhythms, pitches, and harmonic relationships in our aural and kinesthetic sense. One of the most frequent challenges I see students encounter is the ability to effectively coordinate rhythm. I also think this is the underlying cause of the struggle to play with both hands together. To play a rhythm effectively, one must know how much energy to give and at which speed to move, in order to take up the correct amount of physical and temporal space. In fact, we need rhythm to coordinate many of the functions that keep us alive.

Feldenkrais Practitioner Louise Runyon explains:

Rhythm can help the nervous system “tap in” to integrating all the parts of the body into unified movement, and so help transcend the confusion of disparate parts. We are rhythmic beings living in a rhythmic world. Our hearts and lungs work rhythmically, walking is rhythmic, the moon orbits the earth and the earth orbits the sun rhythmically, and so on.<sup>13</sup>

Even my physical therapist recently had me walking with a metronome. I have no problem keeping a pulse, but what we discovered was that I could not maintain a proper gait pattern while keeping a pulse. Students struggling with coordination and note reading often try to organize themselves independently of the pulse. The pulse is the glue that holds everything together, and we need that glue! If playing feels difficult, connecting to the pulse is a good place to start.

Here are some other ways to cultivate to your internal sense of the music:

- Clap or step to the pulse of a piece while listening to the music.
- Clap with nuance. I often ask students to draw circles while clapping. Draw larger circles for long note values, and smaller circles for short note values. Reflect the dynamics, meter, and phrasing in your claps.
- Clap, step, count, or speak a rhythmic pattern.
- We usually play too fast, so learning to step or clap a slow pulse is a huge benefit to overall musicianship.
- Conduct while you play and also while listening to music.
- Combine speaking, singing, clapping, playing, and conducting in different ways. This builds up your coordination as well as your big picture idea of the piece.
- Write words that fit with the rhythm and reflect the emphasis of the meter. Sing or speak the words as you play.
- Move to the music even if you feel goofy doing it. It's possible to use movement to embody many elements of a piece; rhythm, shaping, dynamics, mood, energy, and even harmonic structure. Check out [this video](#) for an example.
- Sing along using words, solfege syllables, or any syllable you like. Hum along. Sing different voices of the piece.
- Attend a [Dalcroze Eurythmics workshop](#) or a dance class. Dalcroze is great because it is specifically about building musicianship but any kind of movement to music is beneficial.

#### v. Listen with Your Whole Self

Listen deeply by sensing where the sounds resonate within yourself. It's possible to feel vibrations all throughout the body. On a grand piano you can feel the vibrations in your fingertips. Learn to listen deeply by observing sounds in your environment. Where do you feel the vibrations of loud trucks or planes? How about the sound of someone's voice or music in the room? Take off your headphones so you can absorb the sounds in your environment with your whole self.

In your playing, listen for overtones, changes in the color, and tension-resolution relationships in the harmony. Listen for the bass and middle parts of a piece. Sing along. You don't have to analyze anything to enhance listening.

The music we listen to can also make a difference in our playing. Often, we aim to emulate the sounds of singing or other instruments at the piano. Listening to music for strings and voice will give our ears a more complete foundation for musical expression. Listening to live music is the

best option because when we watch other musicians, we take in a great deal of information about their movement and technique. Some of this can be absorbed subconsciously through [mirror neurons](#). Live music also provides a more holistic listening experience through overtones and sympathetic vibrations. Check out [livemusicproject.org](http://livemusicproject.org).

#### vi. Do Less and More

Play small sections, slowly, and bring more awareness to your entire playing apparatus, from your fingertips through your arm, your shoulder girdle, ribcage, spine, connection with the bench through your sit bones, your legs, and feet on the floor. I'm sure I forgot something! It may be hard to keep track of all the moving pieces, so choose key places, like wrist and elbow. Write a list of check-in spots and leave it by the piano as a reminder. My list includes breath, eyes, shoulders, spine, and feet. Yours may be different.

- Play smaller sections and experiment with how you engage with shaping, color, energy, and mood while you play.
- Play small sections and bring more awareness to self-use.
- Record yourself and listen to the recording. Even if the recording is just a tiny part of the big picture you will learn immensely from the experience. It's impossible to gather all the data while you are playing so recording provides valuable feedback.
- Spend time working on pieces and tasks that are already easy. While challenge is good, I think we grow our playing more when we can dig deeper and really refine self-use and interpretation. You should set an appropriate and intentional challenge level for yourself.

#### vii. Look for Ease No Matter What

Aim for movements that feel effortless, even, and smooth. The arm should be involved and connected to the fingers. If something feels uncomfortable or difficult stop and shift your practice strategy. If you notice tension in the jaw or shoulders or your breathing is shallow or interrupted then stop and shift your approach.

#### viii. Build Repertoire

In order to play twenty to thirty minutes of music, you must find ease in playing. That's why I often recommend that students work towards that goal. It's difficult to keep many pieces in your fingers if you are employing the brute force method of piano practice. Continuing to work long-term towards building up repertoire will keep you heading in the right direction. It doesn't matter when or if you are able to play for an extended period of time, but rather that you maintain an openness to it. To increase repertoire, you must move towards a less cerebral and more sensory way of playing.

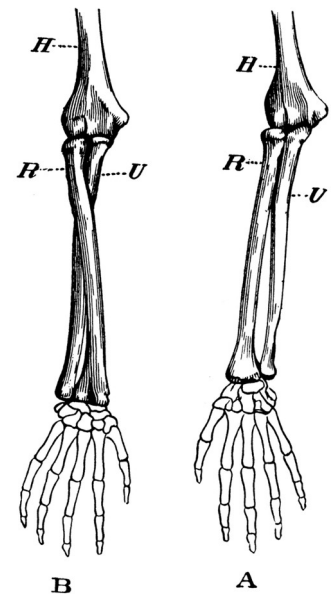
### IV. PIANO TECHNIQUE SIMPLIFIED

I believe that healthy piano technique is the pianist's awareness of the connection from fingertips to the entire self (including arm!), and how the pianist maintains their internal sense of this connection, allowing for embodiment and expression of musical intention.

Increasing awareness of anatomical potential will lay a strong foundation for self-use at the piano. There is no one size fits all approach to piano technique as each person's understanding of their own anatomy is unique. It's the job of your teacher to demonstrate the many movements we utilize at the piano, but you can also make discoveries on your own. As you play, keep the brain-body learning process in mind. The necessary movements cannot be learned all at once, but rather will be achieved through a series of approximations and many years of practice. The goal is to increase sensory awareness of anatomical potential each time you sit at the piano. Have faith that it will all come together in the end, especially if you work with yourself in a kind and gentle way.

Explore these areas to deepen awareness of anatomical potential. Connect each movement to the tone it produces.

- Use your arm as a tool for expression. Group notes within each arm or wrist gesture. Your arm is like the bow arm while playing violin. Adjusting the wrist as you play allows for a healthy alignment of the arm with the fingers.
- Allow your elbow to move in space.
- Maintain the freedom of the radius and ulna to move at the elbow joint. These are the two forearm bones in the picture to the right. We use forearm rotation all the time in our daily lives and can use these movements at the piano to move quickly and efficiently.
- Maintain length in the fingers and stability in the finger tips. Allow your fingers to play between the black keys. Move your arm in and out of the black key area in order to maintain length in the fingers. [Click here](#) for a video on in and out movements.
- Become familiar with different methods of tone production; the whole arm, the wrist, and the individual fingers themselves. Check out [this video](#). My new favorite way to produce tone is by rolling the fingers into the keys at a forty-five-degree angle, feeling the wrist and arm follow.
- Notice how deeply you play into the keys. It's not necessary to press into the key with force or to rest your finger at the bottom of the key. It is nice to make brief contact with the bottom of the key, but that's not a rule.



## V. BROKEN RECORD CONCLUSION

There is a reason that I keep telling many of you, week after week, the same things. It's because you have long engrained habits of how you think and move. Our habits are important and they help us maintain a sense of stability in our lives, but sometimes they get in the way. If you explore these strategies then you will begin to change those habits and find more ease in your playing, and maybe in some other areas of your life too.

As you explore, keep in mind how playing occurs. Musical intention leads to sensory-motor action. Deepen your expressive intention while sensing the connection from fingertips through your whole self as you play. As you do this, the arm and wrist will be free to explore a full range of nuanced movement, which will support your fingertips in the act of musical expression.

Self-expression through music is not exclusively for those who call themselves artists. Embrace it and don't be afraid!

# Brain + Body Learning Checklist

## Look for clues:

- Eyes:** Observe your eyes. Limit the amount of visual data that you take in and experiment with where you look. Play while looking around the room, or with eyes closed.
- Breath:** Observe how you breathe. If you can maintain a consistent, gentle breathing pattern while playing then you are setting yourself up for success! Coordinate your breath with the meter while you play. Breathe out for beat one and in halfway through the measure.
- Jaw:** Check in with your jaw periodically. If you have jaw tension while playing then change your practice strategy ASAP. Do less, go slower, and take more breaks.
- Shoulders and More:** Check in with your shoulders periodically. If they are moving up towards your ears then change your practice strategy ASAP. Do less, go slower, and take more breaks.

## Practice Strategies that ALWAYS Work:

- Use Your Imagination:** Imagine the sound along with expressive elements. Imagine the movements of the fingers and arms. Do this while reading the music and from memory. Play on a hard surface.
- Abandon the End Goal:** Allow yourself to engage in a messy learning process. Shift your focus from the end result to a playful process of experimentation.
- Experimentation and Variation:** Play with different articulations, dynamics, musical shapes, wrist and arm movements.
- Listen with Your Whole Self:** Do this while you practice, but also in day to day life. Notice where sounds resonate in your body.
- Embody the Music:** Clap, step, conduct, count, or speak rhythmic patterns. Connect with the pulse and move to the music. Sing along. Write words that fit the rhythm.
- Do Less and More:** Work on a smaller section, but dive deeper. Explore tone production and musical shaping. Sense how playing feels and observe your entire playing apparatus. Record small sections and listen to the recordings!
- Look for Ease No Matter What:** Aim for movements that feel effortless, even, and smooth. Play in a way that allows for a gentle and uninterrupted breathing pattern.
- Build Repertoire:** As pieces become easier you can add in more pieces while continuing to build ease in older repertoire.

## Observe your self-use:

- Breathing
- Posture
- Arm and wrist shaping
- Forearm rotation
- Length of fingers and placement on the keys
- Stability in the finger tips
- Method of tone production; arm, wrist, or finger
- Grouping notes in the arm; musically, by direction, etc.

## Cultivate your expressive intentions:

- Shape of melody, phrases, and harmonic progressions
- Clear and intentional articulation
- Internal sense of meter, tempo, and expression of rhythms
- Big picture view of the piece
- Texture, color, and touch
- Energy and mood

## REFERENCES

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