From note to pattern:

Using cognitive tools of Somatic and Mythic kinds of understanding
to improve sight-reading ability

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Abstract

A piano teacher often thinks about how to help the students to develop the ability and motivation of self-learning. The experience of learning piano at an early age should bring the students lifelong habits and enhance the quality of their lives. For having the ability to play what they want to play without the teacher’s help, sight-reading is the critical skill. Sight-reading is one of the most important tools approaching musical independence. However, many students play piano by ear-they memorize the melodies and find the keys on the piano without reading music. Although playing by ear is always easier than recognizing the notes at the beginning level, this playing habit might also obstruct their advanced musical learning in the future. In this action research project, cognitive tools of Somatic and Mythic Understanding from the theory of Imaginative Education (IE) were applied in the curriculum to cultivate the students’ sight-reading abilities. Activities, teaching materials, and a simple method book that visualized the sight-reading training ideas were implemented in six-week classes. Observation, short interviews, and a teaching journal were the main approaches for data collection. The project aimed to determine how the cognitive tools improve sight-reading in piano students. The findings from this research indicated that the IE cognitive tools engaged the students more in class, increased their motivation to learn, and effectively achieved their learning as well as the teacher's teaching goals of sight-reading.

Keywords: sight-reading, Imaginative Education, Somatic Understanding, Mythic Understanding, cognitive tools
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Part I: Background

| M: “It’s so hard! It’s so hard! I will NEVER get it!” |
| Me: “Of course, it’s hard. If it’s easy, you don’t need a teacher. That’s why I am here. I am here to help you, go through all of these hard things, make them become easy for you!” |

From the starting point...

I started my piano lessons at the age of four, and music has been my best friend since then. Looking back, I feel grateful that my piano teachers brought me a very pleasant learning experience. I have heard some of my friends’ stories about how their piano teachers beat their hands with knuckles or pencils as punishment for wrong notes. Fortunately, it never happened to me. All my teachers trained me rigorously with various teaching style and strength in each phase. Although I spent lots of time on practice and piano lessons during my childhood and often faced obstacles and pressure, the endless love and patience from my teachers and parents supported me to move forward. Sometimes I struggled with difficult pieces, advanced techniques, fatigue from longtime practice, and performance anxiety just like every other musician, the joy of playing piano kept me on the way.

I began to teach students when I majored in piano performance at university. I soon found teaching piano was such a fascinating job for me. Every student had a unique character and learning style, and I always needed new ideas to teach them in various ways. They made me think the things that I thought I have already proficient at over again as well as reflect on my learning and teaching. It seemed I re-learned my expertise from the very beginning with them, I learned how to teach piano, and I learned the meaning of piano teaching. I recalled my memories about the ways my teachers taught me and the roles they played in my musical journey. They
pushed me a lot since they believed I could, and their trust made me trust myself. My first teacher built a very solid grounding and the following teachers established my musical abilities as meticulous as constructing a building.

I wrote a book about piano pedagogy and started my own music school in Taiwan in 2009. I taught piano lessons, arranged curriculum and activities for children, and held lectures and panels for parents. I knew that piano education would be my lifelong career. For some piano teachers, a one-on-one lesson is a challenge for the immediate response in the classroom, but it is the most enjoyable part and like a game for me. I discover the student’s learning style to find an appropriate teaching method and material for him/her. I communicate with the parents to know their expectations and sometimes need to negotiate to find the balance. I need to know how my students practice at home and help them to develop the strategies for it. Teaching piano is fun for its multitasking and diversity.

After coming to Vancouver in 2017, I spent more than six months to start my teaching career again. I have six private students now, and sometimes I substitute in music centres. Compared to Taiwanese students, most students here are more relaxed and playful. They play piano with more pleasure and creativity, but sometimes become impatient reading the music—playing by ears is easier and faster than recognizing the notes at the beginning level. I surprisingly noticed this situation when the first time I substituted for a piano teacher in a big music centre. I taught eight students that day, and none of them could read music. Most of those students played from memory. One of them read the letters that the teacher wrote on the book for him. The other one even does not have his own music— he has a notebook, and the teacher writes the note names of each song on it. When I taught these students new songs, I had to write the name of every note and practiced with them until they could remember the melodies.
This experience recalled the memories of two of my students in Taiwan. The two girls had some similarities — both of them were about ten years old when they came to me, quiet, sonatina-level, and plagued by the same problem: they had very poor abilities to read the music. The parents were baffled by the issue since the girls had learned piano for more than five years, yet both of them were struggling with advanced pieces due to their poor sight-reading ability. They played by ear and memory since very beginning level. As they stepped into a higher level, the songs became more complex and long that they could not memorize in class, they started to feel incompetent. In my own learning experience, I did not have any problem with sight-reading. Furthermore, I always teach my new students from the very basic note-reading skill that I never thought how if a piano student plays for years without the capability to read music. That was the first time these two students made me consider the importance of sight-reading as well as the way to teach it. I believed that if they learned how to read the music earlier, they probably could skip the obstacles in their piano journey.

The students I taught in the music centre here were all at the beginning level. They could practice and play by ear now, but not forever. There are some of my students have the same problem due to various reasons. Now, I have a new toolkit in hand. I hope Imaginative Education (IE) method that I am studying in Simon Fraser University could help me to find a way for a more effective sight-reading teaching, to help my students get the sight-reading skill in a playful and natural way.
Part II: Purpose

**H:** “I have big progress! I love this song! I made good progress by playing ‘Progress’”!

*“Progress” is a song from the method book of Bürgmüller Op.100*

Beginning level is critical for piano learning since most of the fundamental techniques and playing habits would develop in this stage. For beginners, reproducing the sound by imitation is easier than the process of reading the notes and finding the keys on the piano. It would also build their confidence instantly. However, lack of sight-reading ability might obstruct students’ advanced learning in the future. For this reason, I want to help my students who have poor sight-reading skills to rebuild their abilities for it. I believe this would make their piano playing to become a lifelong hobby.

Music is a playful and rhythmic art form. In my opinion, play, one of the Mythic cognitive tools, could be the most natural way to engage the students in music learning. It could also be a melting pot for many other kinds of cognitive tools. For my young students, transforming piano theories and techniques into play must be an effective pedagogy. It also meets the idea of changing the learning context, which is one of the IE teaching tools. Gillian Judson (2016) explained this kind of cognitive tool on her blog: “it wakes up emotions and imagination and, thus, makes the knowledge more meaningful”. Changing the sight-reading training to activities and games will create a playful way of teaching as well as enhance the students’ willingness to learn. Besides, I regard bodily sense as the best instrument to feel the rhythm and flow of music, and the physical movement would make the theory learning lively. I decided to take somatic cognitive tools as the other powerful teaching device in this research.
Part III: Inquiry

K: “I know I have to count. When I miss the rest, it sounds like the song fell.”

As an IE learner as well as an educator, I have learned using cognitive tools as the teaching helper to engage my students in learning. I have proposed some IE ideas in music teaching during some of the past semesters and have brought the ideas into practice in my piano studio. Now, I would like to focus teaching sight-reading on using cognitive tools of Somatic and Mythic understanding, for sight-reading is the weakness of my piano students, and in my opinion, sight-reading is one of the essential musical skills that makes playing piano sustained.

My purpose of this action research is to discover how Somatic and Mythic cognitive tools improve the students’ sight-reading ability. My central research question is:

- How do the cognitive tools, of Somatic and Mythic kinds of understanding, improve sight reading in my piano students?

To answer this question, I need to become more familiar with Somatic cognitive tools to design the activities. Thinking about the relationship between the cognitive tools and musical theories is necessary.

There are some sub-questions:

- How do students use cognitive tools by themselves while reading the music?
- Which Somatic/Mythic cognitive tools are most helpful and engaging for students reading the music?
- How can I broaden the activities to strengthen the connection between sight reading and playing techniques?
● Does improvement of sight reading also change the students’ attitude toward playing piano?
● Does family support influence the result of learning with IE cognitive tools?

Part IV: Literature review

M’s mom: “I feel he is doing better. Maybe I should pay more attention to his practice. But, yes, practicing new songs seems to become easier for him.”

Play as a teaching and learning approach

According to Vygotsky’s (1967) perspective, children could be more involved in role play and would rethink and input the behavior rules and remain them after play (p.9-10). He also found that challenge makes fun for children. By contrast, simplified the rules would demagnetize the game since it diminished the certain feeling of satisfaction (p. 19). Drawing on Vygotsky, Egan’s Imaginative Education (IE) approach generalized various cognitive tools for children’s intellectual development to help them become more engaged in learning. Cant (2017) described IE teachers as “the curricula’s storytellers, they find connections within the subject, provoke emotions, engage imagination, and partake in a continuous improvement of the cognitive tools” (p. 78). She also emphasized that “the power of imagination can transfer children’s thinking and
feelings into scenarios and situations that are not yet encountered” (p.83). Egan and Judson (2016) also had a description of the imaginative teachers:

> Not only consider the curricular content and concepts they are dealing with, but also think about the emotions, images, stories, metaphors, sense of wonder, heroic narratives, and other cognitive tools that can give these concepts and content life and energy (p. 8).

Egan (2005) takes play as one of the cognitive tools of Mythic understanding in IE theory, claiming that “one crucial value of play is the way it releases the mind to reflect back on the world...it is a tool that develops that meta-level of thinking” (p. 31). There is much research and interest in focusing on play for the sake of better, more enjoyable learning. For example, Singer, Golinkoff, and Hirsh-Pasek (2006) claimed, “play seems to serve as a buffer for children who often need a cope with change and digest baffling new experiences” (p. 7). For most students, learning piano is a process of multitasking that goes with new physical movements and cognitive tasks. They need to connect the old habits of kinesthesia and conception to the new piano skills and a well-arranged game may develop the bridge for them. Play can also create an atmosphere of safety and freedom that will help the children to avoid the stress from learning new things.

Harvard University in Boston and the University of California in Berkeley have collaborated in a learning-through-play program and presented the result of their observation. They indicated that children’s memory, reasoning, speech, and the sense of connection with people were improved by adult-child game-playing (Center on the Developing Child, Harvard University, 2017). McInnes, Howard, Miles, & Crowley (2009) also said that "Children who have practiced tasks under playful rather than formal conditions have demonstrated significantly greater improvement in performance across a range of activities" (p. 35). I believe that play-based learning is significant in music pedagogy and would make music learning more
approachable. It could be the main idea to combine the other teaching tools together in class. Playing makes the joyful and delightful experience for children, and this is what I am eager to explore - the way to make learning piano as playful as a wonderful game.

**Body engagement**

In Lee’s (2018) article *Musicians as Movers*, she mentioned that while playing the piano, “effective visualization might include the feel of the keys under the fingers, the order of fingers leading the movement, and different situations for accessing the note” (p.18). Playing piano is a whole-body exercise that engages hands, brain, eyes, ears, feet, even body weight, and reading skill is the beginning of the whole process.

According to Schiavio and van Der Schyff (2018), “a thought or a belief can be realized by an infinite number of diverse physical states” (p. 1). They also explained that “Cognition cannot be fully described in terms of abstract mental processes (i.e., in terms of representations). Rather, it must involve the entire body of the living system (brain and body)” (p. 2). Although the curriculum I arranged for this action research is teaching sight reading, which includes more theories and reading skills than technical skills, I would still apply somatic cognitive tools in it for bodily sense will make deeper understanding. As Snowber (2012) said, “Movement is knitted into the fabric of our beings, and the very first dance begins in the womb” (p.53). Somatic understanding is the foundation of all cognition, and it should be employed as one of the most natural ways to learn.

**Why sight reading**

Sight reading is considered to be an essential ability for most musicians. For teachers, lessons are always too short to learn the new pieces note by note, especially for advanced
students. A good sight-reading skill would make new pieces become easy to get started, and “is the most significant step towards musical independence, allowing them to continue learning and enjoying music-making even after they stop taking lessons (Tsangari, 2010, p. 4).

Wolf (1976) had identified sight reading as “the ability to play music from a printed score or part for the first time without benefit of practice” (p. 143). Lehmann and McArthur (2002) pointed out that

“Sight-reading skills seems to be highly trainable and differences in sight-reading ability can be explained through differences in the amount of relevant experience and the size of the knowledge base (e.g., repertoire) ... When musicians speak of sight-reading, not all of them have the same activity in mind” (p. 135).

A good sight reader can quickly and efficiently connect the reading skill and the muscular act in some various ways. Although it does not mean that every gifted musician is a good sight reader- as Sloboda (1974) said that “sight reading is a skill which causes difficulty even to some accomplished musicians” (p. 4), no one would deny that the better sight-reading skill a musician can have, the easier he could play a new song. Sight reading is such a complicated activity that McPherson and Gabrielsson (2002) mentioned “from a psychological viewpoint, sight-reading involves perception (decoding note patterns), kinesthetic (executing motor programs), memory (recognizing patterns), and problem-solving skills (improvising and guessing).” Wolf (1976) concluded that sight reading is “essentially a task in pattern recognition” (p. 145). Students learn to read musical notes at the beginning level and gradually learn to read the patterns as the sight-reading skill for the advanced musical pieces are too complex to read note by note. Sloboda (1974) also reported the result of his study about “Eye-Hand Span” to find the relationship between playing and reading, pointed out that predicting is as crucial as eye-hand span for a
good sight-reader. A sight-reader must have musical knowledge of scales, arpeggios, chords, harmonies, and intervals, etc., to find familiar musical patterns at a glance and to predict what is happening before reading the next measure.

Many students learn music by ear in the beginning; this is one of the proper ways advocated by many masters in music education. “Listening to the music to be learned is the key pedagogical principle in the Suzuki Method” (Bigler & Lloyd-Watts, 1979). Lowell Mason, whose work as America’s first public school music teacher helped to revolutionize music teaching, “was convinced that children should first experience music before learning to read notation” (McPherson & Gabrielsson, 2002).

However, while ear playing is an effortless way for teaching beginners and was applied by some mainstream methods, note reading is still important for music learning, and the timing of introducing the musical notation seems very critical. “Note reading is introduced later, depending somewhat on the age of the child” (Kendall, 1973).

Teaching note reading is challenging because teachers must have good knowledge of students’ age as well as the corresponding mental and physical development, which are the keys to successful teaching and learning. In fact, the main reason that some teachers do not teach note reading is that once they miss the best timing, the process becomes extremely difficult: some students will reject note reading because they are used to learning by ear and rely on it; others feel frustrated at the beginning of note reading training because it is more time consuming. The resulting bottleneck is hard to eliminate because of the higher level they reach, the more complicated the score becomes. McPherson & Gabrielsson (2002) has pointed out “a common criticism of ‘sound before sign’ approaches is that children will have difficulty integrating the
knowledge required to read music when notation is introduced and therefore never achieve the same level of reading fluency as children exposed to notation from their first lesson.”

In the story of my two students who struggled with sight-reading, sonatina music is too difficult to imitate by ear, and its score is also too complicated for introducing the musical notation. That is why they got stuck there.

Good sight-reading ability helps students learn music more comprehensively and achieve a higher level smoothly. A study by Bean (1938) has shown that short fragments of musical text displayed briefly are more accurately recorded by good sight-readers than by poor sight-readers.

Ear-learning is an important method of learning music, just as imitation is a good tool for learning music, and memorizing is part of the process. However, it is important to keep in mind that these methods have limitations. Playing the piano only by ear is like reciting a long poem without being able to read the words: students will never reach the next stage without a teacher’s help; this means it is impossible to play by themselves. Sight reading may not be easy to teach, but it is definitely an important ability for a lifelong music learner.

Part V: Research methods and methodology book

I used to teach sight-reading while introducing new pieces to the students, that is more natural but would take a longer time to see progress. For the time was limited for the action research, I prepared some sight-reading materials for the students during these data-collection weeks and decided to spend more time on the sight-reading training in class. I also talked to my students and their parents the importance of sight-reading and how it benefits piano learning before we start.
I spent some time organizing my materials and methods, arranged them into a methodology book. Visually presenting the teaching ideas makes more sense to me than explaining by the narrative only. I used hand sign as one of the Somatic tools to introduce the musical staff and let the students count by hand before reading the notes on sheet music. It was easier to feel the rhythm and the musical letter sequence with the physical movements. Sometimes we exchanged our roles that my student role-played to be the teacher to teach me how to count by hand sign. I also applied metaphors and word puzzles to help them remember the guide notes, and somatically stacked our fists together and shifted the position to learn the chord inversions. We conducted like a maestro to feel the rhythm patterns and said “Hi” to each rest signature to avoid missing it. A combination of games, stories, and kinaesthetic sensation worked fluently in our classes.

**Methodology book**
When I told my students that we will do some sight-reading works in these couple of weeks.....
Come on! Sight-Reading is just like a game!
Let’s start with our hands!

We can learn **LINES** and **SPACES**
with our fingers.
Extend your fingers, we got a **STAFF**.

Do you know how to count on a staff? Count with your teacher, don’t miss a line or a space.
You can take some notes as the **GUIDE NOTES**.

The guide notes would help you count easily.

Treble G on second line is the beginning point when you draw a treble clef.

Middle C is in the middle of the piano keyboard.

F is on the line between two dots of bass clef. That is also the beginning point when you draw a bass clef.

What is underground? It’s “G” old!
There are some other ways...

The space notes on the treble staff are FACE.
When your hand becomes a bass staff...

Since a bass staff sings in lower sound, his **FACE** is also in a lower position.
Once you become familiar with these musical notes, we can learn some **PATTERNS**.

Recognizing the patterns will help you sight-read effectively.
A **STEP** means you move from a line to the next space, or from a space to the next line.

Can you name the notes, play each *PATTERN*, and say the words aloud?
When we have more notes stepping up or down,

We got **SCALES**!

An ascending scale is a group of notes steps up in order.

A descending scale is a group of notes steps down in order.
When you read a scale as a **PATTERN**, you only read the first and the last note.

When you read this one...

![Diagram of a music scale]

You are reading it in this way...

![Diagram of a music scale with an arrow indicating the reading process]

When you read this one...

![Diagram of another music scale]

You are reading it in this way...

![Diagram of a music scale with an arrow indicating the reading process]
A **SKIP** means you move from a line to the next line, or from a space to the next space.

Can you name the notes, play each **PATTERN**, and say the words aloud?

![Musical staff with notes marked as skip up and down]

You will also skip one key on piano.

![Piano keys with highlighted keys marked as skip up and down]
When we put the stepping notes together, they become an INTERVAL named SECOND.

Whether going up or down, the lower note must be in the left side.
So a second must in the shape of ♪♫

You will play adjacent keys on piano.
When we put the skipping notes together, they become an INTERVAL named **THIRD**.

A third must in the shape of 🎶

You will play a set of skipping notes together on piano.
When we put three or more skipping notes together, they become a **CHORD**.

*A BROKEN CHORD means the notes were played separately.*

*A BLOCK CHORD means the notes were played together.*

Imagine that a chord is a stack of blocks...
Sometimes we can shift their positions.
When we shift the positions of the notes in a chord, we make **INVERSIONS**.

A chord with three notes stacked vertically in thirds is a **TRIAD**.

This is how we invert a triad...

<table>
<thead>
<tr>
<th>An original triad is in the <strong>ROOT POSITION</strong></th>
<th>If we move the lowest note one octave higher...</th>
<th>We make the <strong>FIRST INVERSION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If we move the lowest note of the first inversion...</th>
<th>one octave higher...</th>
<th>We make the <strong>SECOND INVERSION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4" alt="Image" /></td>
<td><img src="image5" alt="Image" /></td>
<td><img src="image6" alt="Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If we move the lowest note of the second inversion...</th>
<th>one octave higher...</th>
<th>We make a <strong>ROOT POSITION</strong> again!</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image7" alt="Image" /></td>
<td><img src="image8" alt="Image" /></td>
<td><img src="image9" alt="Image" /></td>
</tr>
</tbody>
</table>
This is how we play inversions on piano...

When you are doing sight-reading, read a chord as a shape or a picture.

Root Position

First Inversion

Second Inversion

Root Position
Don’t miss the RESTS! Let’s play with them!

Say Hi to rests!

High five rests!

Clap the rests!
Hi Maestro!
Can you conduct these Rhythm Patterns?
Feel the rhythm with your hands.

4
4

4
4

4
4

4
4
A sight-reading sample:
How to analyze a sight-reading piece before playing?
Part VI: Data Analysis

My teaching journal:

In my original plan, I had five students as my research target. But eventually, I could only have four of them as one of the students stopped the piano class temporarily. I kept a teaching journal after each lesson as my research data. Besides documenting the class activities and students’ responses, I wrote down the conversations that were from some short questions I often asked at the end of each class.

About M

“You write, you play” by M

M’s former teacher did not teach him how to read the music on the staff. He could only recognize two or three notes by memory when we started our piano class. Developmental coordination disorder makes his lack of self-confidence that he often said: “I will never learn this”. Bad sight-reading skill frustrates him other than his motor skills. I considered that the improvement of sight-reading could help him to devote more energy to motor skills while
playing. M has a very good understanding of musical theory and was excited to find that guide notes could help him to count easily. He soon applied the “FACE” as guide notes by himself and could count the notes without anxiety. He would also say: “I know it is underground ‘G’” while reading bass staff. I encouraged M to write some notes on the musical staff and play them by the activity "You write, you play". He was extremely cautious in the beginning that he did not dare to write the notes in a different position. The more he tried, the more he enjoyed the activity.

3/14 M

M seems enjoy “you write, you play” very much, he couldn’t wait to write one more new song. I was a bit worried when he was doing the first measure. I wondered if he would still put all the notes in the same space. But he started to move from the second measure, and even skipped up all the way in the third and fourth measures. I believe this means the notes become more friendly for him. After writing, he played the notes of the first two measures easily, and slowly count those very high notes that he had never seen in his books with the guide notes he just learned in these weeks without any complaint.

Motor skill is the main obstacle for M’s piano learning. I hope somatic cognitive tools would help him. I tried to reinforce his bodily sense to feel the motion instead of controlling the muscles.

3/8 M

“I play for you”

M was struggled by a 2-hands-together playing pattern.

After several times of failed try, he got very upset. I wanted him to put his fingers in position, and I put my hands and fingers on his, and I played for him- actually I was
pressing his fingers to play. I wanted him to be relaxed to feel the motion. I did it twice, then encouraged him to try again by himself. He had a good progress and after couple of times practicing, he could make it.

About K

K is the youngest student of mine, and I taught him from his first piano lesson. K learns new things quickly and has a good ability to read the notes, but often misses the counting of long notes or the rests for his impatience. I tried to apply play and gestures as the tools to solve his problems.

2/7 K

Missing the rest signatures is one of K's problems.

1. “Play” the rests: we sang the song and do various things for each rest. For the interactive part, we said “hi”, do high five, or fist bump while seeing the rest.

2. We sang the song and clapped for the rests together.

3. K sang the song and clap for the rests by himself.
4. *K played the song and count (by a sound he chose) the rests.*

5. *K played the song and count the rests in mind.*

K loves the puzzle quiz book very much, he enjoys flipping over the pages to arrange his own quiz and read the notes aloud.

**About H**

H is very sensitive, and she sometimes becomes upset for some unexpected reasons. Her sight-reading is not good, but she thought that is a baby’s thing and refused to learn it. I remember she burst into tears when the first time I wanted her to count from a guide note. The first challenge for me is to convince her that sight-reading is not for babies and try to teach her that in a subtle way. I tried to use metaphors and stories to guide her to the somatic learning for developing her sight-reading skills. H is a smart girl. Although sometimes she still needs more patience to count the notes, she soon learned how to find the patterns in a song.

2/12 *H*

*H was confused with these two rhythm patterns:* \( \text{\textbullet} \text{\textbullet} \) \( \text{\textbullet} \text{\textbullet} \)

1. **Listen:** *I demonstrated the two rhythm patterns, H listened, to feel/tell the difference.*

2. **Explain:** *triplet means split one count into three equal parts. For the other pattern, two 16th in one half and the 8th note is the other half.*

3. **Maestro H:** *Please conduct these two patterns as you are a conductor.*

   *I hold H’s hand to count the beats like a conductor and speak out the rhythm loudly to feel the difference between two patterns.*
Metaphor: H always ignores the fingerings that make her rely on lots of luck to play the notes correctly. I told her that correct fingerings are like the anchor of a boat. Once she follows the fingerings, she anchors her hands in right position, and could easily reach the notes by stretching the fingers. She needs to find and mark the critical shift points for the fingerings as reminders while reading the music. We practiced together to feel how the correct fingerings anchor her position.

Sight-read: Bürgmüller: The Limpid Stream

Me: Did you notice anything?

H: Patterns!

Me: What kind of patterns?

H: Triplets!

Me: Any patterns for the left hand?

H: Same notes here! Repeated G and D!

The flowing non-stop triplets on right hand is like the stream water.

Reading patterns seems to separate the music into little blocks for students. To identify and circle the patterns before playing could simplify the music. Each pattern becomes a symbol or instructor for the finger motions, and it makes the movements happen naturally.
About A

A had learned violin for three years before she started her piano lesson, and she already had a very good sight-reading ability on the treble staff. For her not familiar to the bass staff, I spent more time on the connection between her left hand and bass notes. We practiced sight-reading for 5-10 minutes in every class, and she loved Diabelli’s Melodious Exercises for piano four hands that we played together as sight-reading training.

A’s mother devotes lots of time to her daughter’s music learning. She always sits in the classroom with us and watches A’s practice everyday. I had a short interview with her.

Q: As we emphasized sight-reading skills during these two months, how do you think about sight reading? Is it important? Does it help?

A: Absolutely. I agree it’s important. I learned piano for two years when I was little. If my teacher told me how to read music like this, I think I would play better. And I think it’s a good idea to read patterns.

Q: How do you think about the teaching tools or methods I used? Are those tools interesting? Useful? Change anything?

A: Yes, those tools are interesting. It’s wonderful that you can use different methods for teaching and talk about theories in an attractive way. It’s surprised me. I thought sight-reading must be boring.

Q: Do you feel any progress on A’s sight-reading during these days?

A: Yes, I was just thinking about that when you play Diabelli’s exercise today. I thought it was too hard for her when I saw the music, but she did it well! I was surprised.
**Working with cognitive tools**

From my journal, I classified the data by activities and the cognitive tools I used for sight-reading training in class to the following:

<table>
<thead>
<tr>
<th>Activity/Content</th>
<th>Kind of understanding</th>
<th>Cognitive tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>A puzzle quiz book</td>
<td>Mythic</td>
<td>Puzzle/ play</td>
</tr>
<tr>
<td>Learning staff by hand sign</td>
<td>Somatic</td>
<td>Bodily sense/ gesture</td>
</tr>
<tr>
<td>Guide notes</td>
<td>Mythic</td>
<td>Pattern in language/ story</td>
</tr>
<tr>
<td>Recognizing patterns (scale, interval, chord): shape and position</td>
<td>Somatic/Mythic</td>
<td>Patterns/ bodily sense</td>
</tr>
<tr>
<td>Pattern (rhythm): listen and conduct</td>
<td>Somatic</td>
<td>Bodily sense</td>
</tr>
<tr>
<td>Chords</td>
<td>Mythic</td>
<td>Play / Metaphor</td>
</tr>
<tr>
<td></td>
<td>Somatic</td>
<td>Gesture/ embodied metaphor</td>
</tr>
<tr>
<td>Fingering and position</td>
<td>Somatic</td>
<td>Bodily sense</td>
</tr>
<tr>
<td></td>
<td>Mythic</td>
<td>Metaphor</td>
</tr>
<tr>
<td>Say Hi to rest</td>
<td>Mythic</td>
<td>Play</td>
</tr>
<tr>
<td>Clap the rest</td>
<td>Somatic</td>
<td>Gesture</td>
</tr>
<tr>
<td>Count rest in mind</td>
<td>Mythic</td>
<td>Mental imagery</td>
</tr>
<tr>
<td>Dynamics</td>
<td>Mythic</td>
<td>Role play/Mental imagery</td>
</tr>
<tr>
<td>Play the slur</td>
<td>Somatic</td>
<td>Bodily sense</td>
</tr>
<tr>
<td>Musical construction</td>
<td>Mythic</td>
<td>Role play</td>
</tr>
<tr>
<td>Read before play (imagine you are playing)</td>
<td>Mythic</td>
<td>Mental imagery</td>
</tr>
<tr>
<td>You write, you play</td>
<td>Mythic</td>
<td>Puzzle</td>
</tr>
</tbody>
</table>
I found kinds of Somatic cognitive tools appeared nine times, and Mythic cognitive tools appeared eleven times. The frequency of using Somatic and Mythic understanding cognitive tools are very close. These cognitive tools complement each other perfectly. The interesting part is that while analyzing a sight-reading piece before playing, the coalescence of all the skills and patterns we used in class showed the aspect of Ironic Understanding.

### Part VII: Conclusion

In this action research, I combined the Somatic and Mythic cognitive tools in sight-reading training, and I could come to the conclusion that these cognitive tools did help me to improve my students’ sight-reading ability. These tools not only practically helped the students learn efficiently, but emotionally reduced their anxiety from learning. The playful pedagogy with imaginative approach brought less stress and more engagement. The elements related to sight-reading, such as note-reading, musical patterns, fingering, analyzing skills, and musical structure, could be presented separately as well as comprehensively by the cognitive tools.

My students were engaged in the activities and games and learned sight-reading skills through the curriculum I have arranged for them. They could remember the guide notes by metaphors and language patterns such as “underground G” and “FACE” and use those tools by themselves spontaneously. Bodily sense and gesture helped them to feel rhythmic patterns;
counting by hand-sign developed the sense of the sequence of notes, and I found for some children, that is also kind of rhythmic sense. These cognitive tools worked well for music learning. Visualized materials reinforced the concept of patterns, and that will build the connection between finger movements and reading content. Improvement of sight-reading seems to change students’ attitude toward practice. This result reminds me that maybe most of the "problems" with the piano students - bad attitude, refusing, laziness for practice- are from the alienation and fear of musical notations and playing skills. A playful, colorful and joyful pedagogy that emotionally relaxed and engaged them made them feel those musical notations becoming friendly. Learning would happen naturally in that way.

Is sight-reading quantifiable? The assessment was my challenging part of the research. It is obvious that my students do not fear nor hate sight-reading so much now, and they can find ways to help themselves recognize the notes faster than before. However, it was hard to measure their progress. Furthermore, some of them still need to enhance the playing technique to play the music they have read accurately. For the time limit, I could only focus most of the training on reading skills in these weeks. If this action research could be a long-term project, I would implement the playing technique training for the next phase.

Although there are some interesting interactive sight-reading training applications available on the internet, I prefer using IE toolkit to the 3C devices. I believe that learning through bodily sense and creative imagination would make understanding more profound.

The other challenge I faced was the lack of some parents’ engagement. Some of the parents are very busy, they pay money for the lessons, but cannot pay attention to children’s learning. I can only teach children for thirty or sixty minutes a week, but they need to practice at
home every day. Children can hardly make it without the parents’ support. From my observation, undoubtedly, children’s learning achievements are related to the parent’s attitude.

There was an interesting perspective that emerged from our critical group discussion. Although I focused my research on the approach of Somatic and Mythic understanding, the idea of sight-reading is very close to Ironic understanding. Students learn to read the music note by note in the beginning but move up to read the patterns instead of the notes after becoming advanced sight-readers. Standing in a distinctive height to interpret the music with a real and deep understanding of how those musical patterns work is very ironic. The discovery also helped to deepen my understanding of Ironic understanding.
Reference


Tsangari, V. (2010). An Interactive Software Program to Develop Pianists' Sight-reading Ability.