

ASTA Conference

March 6, 2014

Tapping into the Medial Prefrontal Cortex With Only Five Minutes a Day

Alice Kanack with Drew Robertson and the CAD Tour Group

"Exceptional musicality can be developed through the disciplined practice of improvisation."

The Science

- The Medial Prefrontal Cortex is part of the brain that we use to define ourselves as individuals. For example, if someone asked you to describe yourself and you began to do so, your medial prefrontal cortex would light up.
- The Charles Limb experiment at Johns Hopkins demonstrated that the medial prefrontal cortex lights up when musicians improvise, but not when performing scales or pieces.
- Daniel Coyle, in his book *The Talent Code*, demonstrates how myelin, a material that wraps around nerves, can speed up the brain's processing time. This speeding up leads to what we call talent. Coyle describes how one can grow myelin using a certain kind of practice: *intensely focused repetition*.

The Pedagogy

Creative Ability Development (CAD) by Alice Kanack began experimentally in the 1980's and has evolved into a method that reinvents the teaching of musicality. Musicality is an individual's ability to express emotion, beauty, and artistic truth in a musical language. True musicality is re-processed imitation; it is each individual's ability to take experiences and express them in a way that is uniquely theirs.

Historically, musicality has been taught convergently in two ways: through direct imitation of one's teacher and by metaphor (comparing a musical phrase to an emotion or other extra musical idea).

CAD teaches musicality from a divergent point of view, allowing the student to make aesthetic choices from the beginning. Through CAD, students not only learn unique self expression, they actually create music.

Demonstration 1 – Barrett's Bassline with melodic conversation

Based on Improvising String Quartets (ISQ) # 12, pg. 119 (Advanced Level)

Demonstration 2 – Melody over a drum and open string harmony part
(Beginning level)

Demonstration 3 – String Quartet # 19 from ISQ pg. 133

In B Phrygian/B minor (Tour Level)

Teaching Divergence

"Two roads diverged in a wood, and I – I took the one less traveled by, and that has made all the difference."

Robert Frost

Too often the 'road not taken' in music education is the creative one. We focus almost exclusively on the development of flawless virtuosic technique and the expressive imitation of the historic masters of our instrument. We even have lengthy heated discussions regarding which master is best to imitate. We forget that it is the method of their inspiration, their intuition and their intense creative seeking of a musical truth that we should strive to imitate; this is the road less traveled, the divergent path in the convergent world of music education.

From Basslines and Fantasies : 24 Musical Puzzles to Solve in all 12 Keys
by Alice Kanack

The Musical Puzzle

What is the musical puzzle that has no right answer, yet can provide multiple creative attempts to solve it?

The answer...

Improvisation over a given harmonic structure:

The harmonic structure is the question,

Repetitive disciplined improvisation is the answer.

The puzzle or creative exercise is solved when the student feels ready to move on.

The harmonic structure tethers the student to an idea but leaves them completely free to choose their own creative solutions using improvisation. It allows them to truly repeat the process on a daily basis. This repetition is crucial to the development of creative ability because it is the prime catalyst in the brain's creative process.

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Five Minutes a Day

Daily improvised practice over a given musical structure develops musical expression and artistry, as well as excellent intonation, fluid technique, and strong rhythmic skills.

The Freedom of Choice + Disciplined Practice = Creative Ability Development

Demonstration 4 – Hannah plays #6 from Fun Improvisation for Violin
(Age 10 playing 4 months, improvising 1 month)

Exercise #6



① **Key: A major** (student may use open A and E strings, and fingers 1, 2, and 3 on A and E. The second finger should be placed touching the third finger as it is in the Twinkle Variations of Suzuki Book One.)

Advanced Finger Pattern: Use all strings described in the diagram. Note that open G string cannot be used, but can be replaced by a first finger, lowered into half position. Also notice that the third finger is raised on D and G strings. Third position may also be used on the E string with a fourth finger extending beyond into fourth position. This extended fourth finger should be played as a harmonic: The finger lightly touches the string but does not press it down to the fingerboard.

Clicks: 6

② **Basic Instructions:**

Using the finger pattern for A major (above) the student may play anything he wants. He cannot make a mistake since it is his own creation. The instructor should never interrupt the student once the playing has begun, (even if the student is using the wrong key or finger pattern). Upon completion, compliment the student and repeat the exercise three to four times. If there is a confusion regarding the finger pattern, explain it again between repetitions.

③ **Advanced Instructions:**

Exercise #1: Imagine a melody in your head while listening to the music. Try to remember some of it and play it on your instrument.

Exercise #2: Pick a rhythm and try to maintain it while improvising. For example a simple repeated $\dot{\downarrow}$ (dotted half note) which equals one note per bar or perhaps a more complicated $\dot{\downarrow}$ \uparrow \uparrow rhythm.

④ **About the Music:**

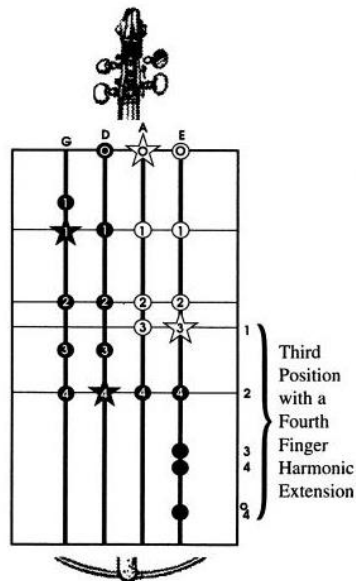
This little piece is a waltz, which is a dance in moderate to fast triple meter. It is recorded using both synthesized and real instruments.

⑤ **Listening Questions:**

All the instruments in this recording are synthesized except for one. Can you tell which instrument is not synthesized?

⑥ **Answers:**

The Piano



Taking Away Fear

"It came to me ever so slowly that the best way to know the truth was to begin trusting what my inner truth was ... and trying to share it – not right away – only after I had worked hard at trying to understand it."

From The World According to Mister Rogers

"Be patient towards all that is unsolved in your heart, and learn to love the questions themselves."

-Rainer Maria Rilke

"By writing I was existing.... My pen raced away so fast that often my wrist ached. I would throw the filled notebooks on the floor, I would eventually forget about them, they would disappear.... I wrote in order to write. I don't regret it; had I been read, I would have tried to please.... Being clandestine I was true.

Jean-Paul Sartre (from his autobiography describing himself at age 9)

Teaching fearlessness in improvisation is accomplished by allowing students to hide as they create, until they are ready to share. This is accomplished through three distinct means: separating the elements, using games, and focus on rules.

Demonstration 5 – "The Rhythm Machine," ISQ, pg 22.
Demonstration 6 -- "The Full Body Rhythm Machine"
Demonstration 7 – "What's the Answer to My Question?"
Demonstration 8 –Turning a bassline into a quartet, ISQ #12, pg. 118.
Demonstration 9 – Jack plays #14 from Fun Improvisation for Violin
(Age 13, playing and improvising 10 years)

Teaching Communication

Demonstration 10 – Soccer
ISQ Exercise 3, pg. 26
Demonstration 11 – Melodic Soccer over Casey's Caribbean Classic
ISQ Exercise 3a, pg. 28
Demonstration 12 – Follow the Leader
ISQ Quartet #4, pg. 102
Demonstration 13 – Ostinati Quartet
ISQ #14, pg. 122

An Equal Partner

CAD is not meant to replace current methods of musical education; it is designed to be used alongside as an equal partner. Without the development of the creative side, we will force students to become museum pieces, holding up a tradition of imitation. While there is greatness in history, it is the creative genius of our current generation that needs the opportunity to grow and develop. With CAD, we have the means to make this happen.

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Demonstration 14 – Daphne plays #9 from Fun Improvisation for Violin
(Age 18, playing and improvising 16 years)

Resources

Books by Alice Kanack

Fun Improvisation Series for Violin, Viola, Cello and Piano

Musical Improvisation for Children

Improvising String Quartets (with Sera Smolen)

- Available through Alfred Publishing or Creative Ability Development Press

Basslines and Fantasies – 24 Musical Puzzles to Solve in all 12 Keys

- Available Fall 2014 through Creative Ability Development Press

Other Sources

Neural Substrates of Spontaneous Musical Performance: An FMRI Study of Jazz

Improvisation by Charles Limb

The Talent Code by Daniel Coyle

For more information regarding Teacher Training (August 18-22, 2014), lectures, or scheduling tour group performances, please contact Alice Kanack:

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