Creative Ability Development:
Overview: Pre-Twinkle/Fun Improvisation/Improvising String Quartets
Sera Smolen

Introduction

Creative Ability Development is a method by which students may develop the creative part of their brains. The method is based on research which explains how the process of creativity works in the brain to solve problems. Using music as a language and improvisation as a tool, the method of CAD replicates this creative process through games and exercises. Through disciplined practice of the CAD method, all students can develop their innate creative ability to a very high level.

The key to the development of creative ability is:
freedom of choice + disciplined practice = creative ability
In music, practiced (repeated) improvisation within a predetermined structure grows creative self expression and unique musicality

Convergence (IQ) + Divergence (Creativity): Formula for success
“The discovery that music activates its own neural network ...
has broad implications for the way the mind works
and for strategies to enhance mental performance and creativity.........
”Richard A. Knox; Boston Globe, 1992

Genius is defined (by Webster) as the combination of great intelligence and great inventive or creative ability. Musical genius in performance practice is defined as great technical ability in combination with unique musicality.

In Outliers, Malcolm Gladwell describes the secret of success as a combination of convergent and divergent intelligence; convergent intelligence being measured by standard IQ tests, divergent intelligence being measured by tests of the creative intelligence quotient.

The Suzuki method, often called Talent education, nurtures and educates convergent intelligence: The Creative Ability Development method nurtures and educates divergent intelligence. Taught together they develop the innate musical artistry in every child. True artistry is great technical ability in combination with an artist’s deep and unique personal expression. String Quartet improvisation is currently the highest form of Creative Ability Development and is designed to develop, facilitate and inspire the creative part of the brain.
### A Study of Parallels

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**A Guide to Creative Ability Development (CAD)**

**The Creative Process Theory (1985)**

1. Conscious Work - The repetitive creative search for a solution to a problem for which there is no known answer.
2. Subconscious Work - Triggered by the conscious creative work.
3. Inspiration - The communication from the subconscious to conscious part of the brain.
4. Theory - The explanation of the inspiration.

**Why teach Creative Ability Development/CAD?**

"Music + Creativity = Unique Musicality

Unique Musicality + Great technical ability = Artistry"

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* Fun Improvisation for Violin, Viola or Cello
  Alice Kay Kanack (Alfred Publ.)
Growing Myelin: Soccer + Suzuki (Educating the whole brain)†

In *The Talent Code* Daniel Coyle shows how the Suzuki method develops “violin myelin”, the substance which grows around nerves as we practice musical techniques carefully and repeatedly. The CAD method grows myelin in a way more closely related to Coyle’s description of soccer. The art of improvisation is characterized by intuitive and immediate response to outside stimuli. The repetitive triggering of a creative response to a musical 'question' which has no absolute or correct 'answer' is a creative musical process which more closely resembles soccer and, therefore, grows myelin in a different part of the brain. In fact, the CAD method develops a unique voice and a deeply personal musicality in every child.

Medial Prefrontal Cortex and all that Jazz (Brain studies of improvisation)‡

For 30 years teachers and parents have observed this phenomenon occurring in every Creative Ability Development student as they improvise in lessons and classes parallel with their Suzuki study. In 2007, brain research done at Johns Hopkins University by Charles Limb illuminated the neuroscience which explains these observations. Using MRI technology, Charles Limb was able to demonstrate how the prefrontal cortex lights up when musicians improvise. This beautiful image clearly explained the concept of a musical voice, because the prefrontal cortex is the part of the brain which is activated when a person talks about or describes himself. Charles Limb proved that musical improvisation can develop the part of the brain which expresses the unique personality of each player, the very definition of unique musicality.§

The Role of the Teacher
The Facilitator

The role of the teacher in Creative Ability Development is that of a facilitator. The teacher acts as a catalyst to the students creative exploration, imparting theory and structural concepts while maintaining a 'limited' influence.

The most essential concept in teaching creativity is to provide an environment free from criticism. CAD uses these three rules as a guide:

1) “There’s No Such Thing as a Mistake!”

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† *The Talent Code* - Daniel Coyle (Bantam)
‡ *Public Library of Science*, Feb 7, 2008
§ Charles Limb, Allen Braun - Johns Hopkins

Evidence of the separation of intelligences in the research of Charles Limb.

a) Creativity/improvisation is characterized by a “dissociated pattern of activity in the pre frontal cortex”, a part of the brain we use to define our own uniqueness

b) The performance of learned sequences is characterized by central processes that typically mediate self-monitoring.

c) (Charles Limb also studied how music activates the amygdale, part of the limbic system, which has social implications. He discovered how we use the same part of the brain to improvise music as when we answer social questions like “tell me about yourself.”)
2) "Applause and Silence"
3) "Never Criticize a Friend"

Students love these rules, and it is no mystery why: Imagine a place where you cannot make a mistake, where no one is allowed to criticize you, everyone listens when you speak, and everyone applauds your ideas! This is the CAD environment.

**Facilitator Guidelines:**

1. Participate as a musical creator
   - Give moral support
   - Share ideas
   - Guide the students through play
   - Be willing to share the emotional challenge of searching for your own ideas.

2. Impart music theory while still maintaining a ‘Limited’ influence.
   - Use rules of games and exercises to teach concepts.
   - Allow students to understand theory intuitively, musically and aurally before they understand it intellectually.

3. Provide consistent opportunities for disciplined creative practice.
   - Repetition of the creative process is how our brains grow or acquire the connections needed to develop creative ability.

**The 5 Stages of Creative Development: The results of “divergent” pedagogy**

I. Breaking The Ice
   This Stage takes about 3 months. It is about getting comfortable with improvisation.

II. Finding Your Voice
   This stage takes about 3 years. This is the foundation of creative development. It is each child’s search for this own unique vision of truth and beauty in a musical language. The search is characterized by increasing tonal quality and the refinement of musical ideas. During this time the teacher uses CD’s or accompaniments as frameworks for the students’ search.

III. Sharing Your Voice
   This stage usually occurs after about 4 years. The student has ‘Found His Voice’ and has a desire to share his ideas with others. At this stage students often push their virtuosity beyond the current level of their ability.

IV. Breaking Away
   This occurs in the fourth or fifth year and can also be a starting point for advanced players. At this stage, players are ready to create their own structures and harmonies. They no longer need to use CD’s or accompaniments as frameworks, and are therefore ready to “break away”. At this stage students may begin composing/improvising their own pieces. It is a great stage to begin improvising string quartets.

V. Using Your Voice (In Other Contexts)
   After many years of CAD study, students are able to use their creative skills in ways that cross over into other areas of both their musical and personal development. For example, a student may use CAD techniques to compose a piece of music, write poetry, or write a paper. He may also be able to use these techniques to interpret music he is performing in a unique and personal way.
Observation Points of Creative Stages 3-5

Comfort with performance  
Relaxed technique  
Better intonation and rhythmic sense  
Harmonic understanding  
Communication skills  
*Unique Musicality*

“Music may help humankind enhance creativity inherent in all minds.” — Dr. Robert S. Root-Bernstein

“Creativity defines all intelligence at the highest level.” — Frames of Mind: The Theory of Multiple Intelligence, Howard Gardner

Learning Music Theory
Using Creative Ability Development

Improvising Music With Children—Alice Kanack

For “pre-twinklers” and beginners, this book focuses on free improvisation using the black notes or the white notes of the piano with a beautiful and engaging CD accompaniment. Each exercise draws on the imagination of the player using animals, stories, games, etc.

**At this stage imagination is more important than music theory. However, here we learn that there are black notes and white notes on the piano.

Fun Improvisation for Cello (violin, viola and piano)—Alice Kanack

The exercises in this book begin with 10 compositions in the most idiomatic, natural key to begin with on the instrument. It allows ample opportunities to become fluent in improvisation while relying on frequently used finger patterns. While we simply begin improvising using the rule of “There is no such thing as a mistake!” in the one key we know. This allows us to understand what a scale is, and this scale is a finger pattern on the instrument.

Exercises 11-14 are in a pentatonic key. It is possible to introduce this new scale as a tonalization. We say the fingering: on cello, for example “G13 D14 A14 glide 14”.

Exercises 15 – 29 Introduce another finger pattern for each instrument, and pieces using each of the greek modes. Now each of these modes can become a tonalization, and learning the names of the modes expands our knowledge of music theory. While the modes, for the Greeks, exemplified the “moods of the soul”, they will later be used in Jazz theory, associated with different harmonies. (Major=M7 chord/Dorian= often the minor scale used by jazz players/Phrygian=b9chord/Lydian=b5chord/Myxolydian=dominant 7 chord/Natural minor=m7chord)

“Perfecting our repertoire gives us great QUALITY in our music

Improvisation gives us great QUANTITY with our music” —David Darling
**Violin**: Exercises 1-10 in the key of A major
    Exercises 11-14 in D pentatonic
    Exercises 15-29 in G major and modes of G

**Viola/Cello**: Exercises 1-10 in the key of D major
    Exercises 11-14 in G pentatonic
    Exercises 15-29 in C major and modes of C

**Piano**: Exercises 1-10 in the key of C major (all white notes)
    Exercises 11-14 in F# pentatonic (all black notes)
    Exercises 15-29 in G major and modes of G

**At this stage, we learn that a scale is a finger pattern. We learn how, for example, G major, A dorian, B Phrygian,...etc. are all “G major scales from B to B”. We learn how, in B phrygian, B is tonic. We learn where all 3 B’s are on our instrument. Aurally, we “live” in each of the greek modes, exploring the different moods of each mode.**

It is possible, after you and your student have completed all 29 pieces in the volume for your instrument, to begin to explore the key centers studied by the other instruments. For example, violinists can add the C major finger pattern to their abilities as improvisers, while cellists can begin to improvise in A major, etc.

**Improvising String Quartets**: Alice Kanack and Sera Smolen

This volume is used for musicians who are ready to improvise in four simultaneous parts, and is currently being published by Alfred Publications. The beginning exercises can be done by musicians in earlier books.

**Improvising String Quartets**

**Part 1: Basic Exercises and Variations**

**How to teach Improvising string quartets**: We begin with large or small group exercises which are like musical games, each one with a theoretical basis and purpose. Next we create multiple variations of each exercise which serve to repeatedly practice and develop the original concepts. Finally, we bring the exercises and variations together in multiple ways, like pieces of a puzzle, to create an infinite number of improvised string quartets. In part I of our demonstration, our students will perform seven exercises, demonstrating how they can be developed through variation. In part II, we will create quartets using the same exercises like puzzle pieces.
1. **Basic Exercise #1: “Rhythm Machine”**

   **Variation a: “Harmonic Rhythm Machine”: Tonic and Dominant**
   **Variation b: Melody over “Revolving Trio” of RM+RM+ Pizz RM in G major**

   Rhythm Machine: A musical “machine” built out of rhythms, where all the parts mesh together, and are “in sync”. Rhythm machine is a piece created by players entering one at a time, interlocking their rhythms with each other, each component of the machine repeating itself over and over. First you will hear it in its basic form: rhythm machine with no pitches. This can be created using instruments in many unique ways!

   Harmonic Rhythm Machine: Now the rhythm machine is created using notes. Here, a Harmonic rhythm machine is created emphasizing tonic and Dominant.

   Revolving Trio: A piece in which a player plays first with two players to his right, then with two players on either side of him, and finally with two players to his left.

2. **Basic Exercise #2: Melody over Drone, a revolving Duet**

   **Variation a: Melody over “Double Drones” in A dorian (a mode of G major)**
   **Variation b: Melody over “Moving Drones” (in G major)**

   Drone: A sustained note, held under a melody, rhythm, etc. to create changes in harmony and melody. Double Drone: Occurs when the tonic and any other note from the designated key are sustained at the same time.

   Moving Drones: Each player sustains one note from the chosen key, with no notes being duplicated at any time. Moving drones are played as a revolving duet or trio. They can also be played in a revolving quartet fashion creating chords with more complexity.

3. **Basic Exercises #3: “Soccer”**

   **Variation a: “Melodic Soccer” over “Harmonic Rhythm Machine”**

   Soccer: Soccer is a communication game which refers to the passing among players of any musical idea around or across the group using only eye contact.

   Melodic Soccer: A ‘soccer’ game in which the “Ball” is a short melody.

4. **Telephone**: The goal of “telephone” is to develop deeper communication skills. The idea for this exercise comes from the children’s game ‘telephone’, in which children sit in a circle and whisper a spoken phrase in each other’s ears. The last person to receive the whispered phrase repeats it out loud, followed by the child who started the game. There is much laughter as everyone realizes how much the phrase has changed. Like the child’s game, the final phrase in musical ‘telephone’ will most probably be different than the original, but we will hear each version as it goes around the circle. The point of the game is a state of heightened communication, which leads to the development of skills needed for motivic improvisation. In this game, player one plays a short phrase and stops. Player two imitates the phrase as closely as possible — all pitches, rhythms, articulations, etc. Player three imitates player two as exactly as possible when player two is finished. Player three does not attempt to recall player one’s idea. His job is to imitate only player two. This continues around the circle with each player trying to imitate the person they follow. At the end, player one tries to play the original idea. Often in harder versions of the ‘game’, player one cannot even recall the original idea because it has changed so much! It doesn’t matter! The point of
the game is the development of communication skills!

**Variation 4a: Conversation over a Rhythmic Harmonic Bassline**

Conversation: a call-and-response between players which is not straight imitation. Each player tries to imitate musically and emotionally, not the pitches, but the essence, the message of the other player.

Harmonic Rhythmic Bassline: A “groovy” bassline created emphasizing tonic, dominant, and another pitch from the chosen key.

5. **Rounds in A minor**: Rounds develop the ability to create counter melodies which harmonize a given theme. Each player plays the round theme followed by an improvised lower, then upper counter melody.

6. **Imitation/follow the leader**: The repetition of the articulation, bow strokes, dynamics and character of the previous player(s). When imitating in this manner, a player chooses his own pitches, while imitating articulation, bow strokes, dynamics and the musical character of the leader.

7. **Passacaglia**: A series of variations based on a planned theme over a planned bassline.

**Musical Forms for Improvising String Quartets**

(Examples are taken from the new *Improvising String Quartets* book published by Alfred)

**Quartet # 26:**
- A. Melody over Drone
- B. Melody over Rhythm Machine
- C. Conversation over Rhythm Machine
- D. Melody over Drone

**Quartet # 17:**
- A: One pitch Rhythm Machine on Tonic
- B: Four pitch Rhythm Machine with each player using one new pitch plus tonic
- C: Melodies over the Four Pitch Rhythm Machine using a D Hungarian scale
- B: Four Pitch Rhythm Machine
- A: One pitch Rhythm Machine on Tonic

**Music Theory**

A scale is a finger pattern
Tonic and Dominant
Rhythm
Drone
Bass Line/Passacaglia
A Bill of Musical Rights

• Human beings need to express themselves daily in a way that invites physical and emotional release.

• Musical self-expression is a joyful and healthy means of communication available to absolutely everyone.

• There are as many different ways to make music as there are people.

• The human voice is the most natural and powerful vehicle for musical self-expression. The differences in our voices add richness and depth to music.

• Sincerely expressed emotion is at the root of meaningful musical expression.

• Your music is more authentically expressed when your body is involved in your musical expression.

• The European tradition of music is only one sound. All other cultures and traditions deserve equal attention.

• Any combination of people and instruments can make music together.

• There are no "unmusical" people, only those with no musical experience.

• Music improvisation is a unique and positive way to build skills for life-expression.

• In improvisation as in life, we must be responsible for the vibrations we send one another.

David Darling / Music for People