

A Guide to Creative Ability Development

Alice Kay Kanack

A Definition

Creative Ability Development (CAD) is a method which uses musical improvisation as a tool to develop the creative side of the brain. It's pedagogical purpose is to teach unique self expression or musicality. It's philosophical purpose is to develop the ethical character of artistry in every student, which is the search for, and expression of, truth and beauty. CAD teaches students how to create together and share ideas, and inspires in each student a non-competitive internal drive for excellence.

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 group games and solo exercises. Through disciplined practice of the CAD method, all students can develop their innate creative ability to a very high level.

How it Works

CAD is a 5-minute daily etude which deals with the creative part of the brain. In addition, CAD is an elaborate set of graded group 'games' which begin in the pre twinkle stage and end at the professional level.

A Brief History

CAD began with a student challenged by the educational system of his time. He was an extremely creative, musically brilliant child struggling with analytical teaching styles. The CAD approach was initially created as a response to his needs. It was further developed through research into how the creative process works in the brain. Early on, CAD was deeply influenced by the Suzuki pedagogical approach, resulting in a system that works beautifully side-by-side with Suzuki.

The Creative Process Theory

Conscious Work

Conscious work involves many elements: setting up a problem, repetition of work on the problem, understanding the tools necessary to solve the problem, and exploration of different points of view.

Subconscious Work

Subconscious work occurs in a part of the brain where we have no conscious awareness. It occurs only after conscious work on a creative problem has been attempted repetitiously. It seems to work best when the conscious part of the brain is at

rest or is thinking about a subject other than the creative problem at hand. The exact manner in which the subconscious part of the brain functions is the greatest mystery in the creative process.

Inspiration

Inspiration, the highest point in the creative process, occurs when the subconscious having reached a solution to the creative problem, communicates that solution to the conscious. It is characterized by a quality of sudden illumination of thought. It will occur often without warning as a waking dream, complete or nearly complete in form, structure, length, etc. Inspiration occurs in the form of an answer to the problem, not a theoretical explanation of the solution.

Theory

Part four in the creative process, is the analysis or theoretical explanation of the inspiration. A certain structure of rules is necessary to begin a creative process. Creativity builds upon itself as each new idea grows out of predecessors. However, inspiration is the one truly new creation of the individual that cannot be explained except through the analysis of his work. Therefore, in the creative process this analysis is actually the only new theoretical work. The theory on which the inspiration had been based or begun would have been changed, subtly altered, or expanded to create a new theory. New theory cannot exist without inspiration, and therefore follows.

The Practical Application of the Theory

The Musical Puzzle

What is the musical puzzle that has no right or wrong answer? What musical puzzle can provide countless creative attempts to solve it? The answer is a surprisingly simple one: 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.

Conscious Work

“What’s the Answer to My Question?”

- 1. The teacher creates a musical question, to which there is no ‘correct’ answer!*
- 2. The student creatively searches for his most beautiful and/or honest answer to the question in a musical language.*
- 3. This question and answer process is repeated many times.*

Subconscious Work

Subconscious work is triggered by the conscious work and generally occurs when the conscious part of the brain is at rest.

Inspiration

Inspiration occurs when the subconscious communicates to the conscious part of the brain. This can happen anytime but is often triggered by repetition of the creative exercise.

Theory

Theory is the explanation of what has been created and should follow the creative act. It should be introduced verbally when a student requests it. It should be introduced as a tool for creative development through simple rules to the games and exercises. The rules must be simple enough to not interfere with the creative process.

CAD and Flow

(from the SAO keynote speech)

I look at students like a sculptor looks at a block of marble. I envision their perfection of technique and posture, then whittle away together until we achieve that vision. Next I need to draw out the unique musical soul that innately exists in every child (like the Blue Fairy in Pinocchio who waves her wand and turns a puppet into a real boy).

My goal is to bring out the uniqueness of each child – to bring out their voice, not mine. To teach them to understand the language of music in a way that allows them to speak from their hearts. This is the magical best experience I want to teach my students. This experience is what Mihaly CsikszentMihalyi calls Flow.

CsikszentMihalyi, a phenomenologist, went searching for the psychology of happiness. In his research he studied people who did things because they loved to do them: not for money – not for recognition – not for power

The book Flow was brought to my attention by a student who recognized a connection between his work and mine. Flow in the language of my work is called 'Inspiration' – The third and highest point in my theory of the creative process.

30 years ago I went searching, like CsikszentMihalyi, to uncover the mystery of how creativity works in the brain. I studied the writings of creative geniuses throughout history – across multiple fields: mathematicians, scientists, writers, composers, dancers, artists, etc. The pedagogy I developed was based on this creative process theory and was heavily influenced by Dr. Suzuki who I studied with in 1984.

Phenomenology, CsikszentMihalyi's field, is the philosophical study of the structures of experience and consciousness. In studying his work, I discovered that his 8 components of true joy are actually the components necessary for creative inspiration. I also realized that I had actually stumbled on the same 8 components in my CAD pedagogy.

In his work, the phenomenology of enjoyment has 8 components. See how they compare to CAD.

- 1 - Confront tasks we have a chance of completing (the search for our best improvisational solution to a given structure is a reasonable goal).
- 2 - Be able to concentrate on what we are doing (Suzuki said focus on 1 point at a time – therefore in the creative act the search for a creative solution is the 1 point – there are no interruptions or corrections of any kind)
- 3 - Have clear goals (solve the musical puzzle)
- 4 - Have immediate feedback (the student judges his own work)
- 5 - Deep but effortless involvement that removes awareness, worries, and frustrations of everyday life (There's no such thing as a mistake – so the act of searching is effortless -) students love CAD class – so much so that parents often think then that CAD is just for fun.
- 6 - Exercise control over one's actions (Daily practice develops ability)
- 7 - Concern for the self disappears yet paradoxically the sense of self emerges stronger after the flow experience is over. (When students realize the beauty they have created it is empowering)
- 8 - The sense of the duration of time is altered. (Students practicing CAD increase their practice time effortlessly.)

CzikszentMihalyi also talks about Differentiation and Integration. Differentiation implies a movement toward uniqueness. Integration refers to its opposite: a union with other people, with ideas and entities beyond the self. CAD provides both individual and group work. Students who improvise together effortlessly integrate their unique improvisational 'voice' into the fabric of the ensemble. A complex self is one that succeeds in combining these opposite tendencies. The self becomes complex as a result of experiencing flow. In CAD, the student becomes the artist through experiencing inspiration: A musician with a unique expressive voice, with the ability to communicate with his fellow players and his audience.

The Role of the Teacher The Facilitator

The role of teacher in CAD is different than that of a typical music teacher. The teacher acts as a catalyst to the students' creative exploration. *You Can't Teach Divergence, but You Can Facilitate It.* Divergent teaching in music is a way to develop true musicality, as well as a way to create a well-rounded musician: One who could compose, interpret, and improvise all in a style uniquely his own. So how does one facilitate divergence?

First, by letting go of the traditional model of the teacher. In a divergent lesson, the teacher no longer has the right answers, or even the power to correct mistakes. In divergent thinking, there is no such thing as a mistake!

Second, the teacher must create an environment for the development of divergent thinking; an environment rich in musical experiences and free of the concept of criticism. Creativity is the art of choice. Through the removal of criticism in the divergent environment, the student begins to look inward for choices. In his own unique way, he begins the search for the best within himself. Once he finds his truest vision he begins to share; and thus begins a new role for the teacher. The teacher becomes a listener, not to offer criticism, but to fulfill the students' need to communicate.

Third, the teacher must provide a means for discipline in the practice of the creative process. In the divergent realm, discipline refers to the repetitive practicing of the search for a solution to a creative problem.

In essence, the teacher must become a facilitator and a catalyst, but never a critic. He must provide a rich musical environment for the students to experience. He must provide creative musical problems for the students to solve, and encourage their disciplined practice of solving these problems. Finally, he must cultivate his ability to listen without criticism, to hear with his heart, and to recognize and celebrate the emerging creative voice of the child.

Robert Frost said, "Two roads diverged in a wood, and I – I took the one less traveled by, and that has made all the difference." 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 rely on imitation of historic masters for expressive ideas. We even have lengthy heated discussions regarding which master is best to imitate. We forget it is the method of their inspiration and their intense creative seeking of a musical truth we should strive to understand and imitate. This is the road less traveled, a divergent path in the convergent world of music education.

The 5 Stages of Creative Development

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.

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 chamber music.

V. Stage 5 - 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.

Why Improvisation? The Medial Prefrontal Cortex and all that Jazz

As I began to test the Creative Process Theory, improvisation, especially structured improvisation, seemed like the perfect tool to develop the creative part of the brain. Compared to their peers, students of the original CAD program demonstrated heightened musicality, increased sensitivity to pitch, rhythm, and harmony. They also performed with greater ease, demonstrated more fluid technique, and had a wonderful ability to communicate musically with their peers in chamber and orchestral settings. Structured improvisation seemed to be the reason for this phenomenon. As teachers and parents observed this phenomenon, the program doubled, tripled, and then quadrupled in size.

Many of the original students have since gone on to brilliant careers in music and other fields. They have found creative niches in medical and technological research, visual arts, and other fields. This correlation between CAD and career-long creativity is fascinating, but has not yet been statistically proven causal.

Recently, however, Charles Limb and his associates at Johns Hopkins University made some startling discoveries regarding improvisation. Using MRI equipment, they tracked what happened in the brain when a musician improvised; then repeated the study having the same players perform scales or familiar pieces.

What they discovered was that the medial prefrontal cortex lit up when musicians improvise, but not when they played pieces or scales. This is quite significant because the medial prefrontal cortex is the part of the brain we use when we describe ourselves. For example, if someone asked you to talk about yourself, the medial prefrontal cortex of your brain would light up as you responded. Therefore, the evidence demonstrated the fact that when we improvise we are in touch with the essence of what makes each of us unique and we are then able to communicate the essence of our individuality in a musical language; this is the very definition of musicality!

Cracking the Creative Talent Code

What happens when we practice improvisation in a focused and disciplined way?

I raised this question with Daniel Coyle, author of *The Talent Code*. In his groundbreaking book, published in 2009, Coyle demonstrated how a certain kind of practice could actually trigger the growth of a substance called myelin in our brains. Myelin is like insulation that wraps around “nerve fibers and increases signal strength, speed, and accuracy.” “Myelin ... responds to urgent repetition. Myelin is infrastructure with a powerful twist [It] transforms narrow alleys into broad, lightning-fast super-highways. Myelin can increase neuronal capability up to 3,000 times.”

Excerpted from *The Talent Code* Pages 38-44

After reading *The Talent Code*, it occurred to me that disciplined improvisational practice could develop “creative” myelin; perhaps part of the phenomenon we were witnessing among CAD students was the result of this growth.

I asked Coyle if he thought it was possible to grow creative myelin. Coyle’s response: **“Absolutely!”**

In *The Talent Code*, Daniel visits nine “talent hotbeds,” including the famous Meadowmount Music Camp. However, it struck me that creative development of myelin is more closely related to his description of the Brazilian soccer training game ‘futsal.’ In this game, players use smaller heavier balls than regulation soccer balls, passing with finesse within the confines of a small court. This deep intuitive practice within a limiting structure developed some of the finest players to come out of Brazil.

This research indicates we may be able to grow creative parts of the brain using intense, structured musical improvisation. The evidence, both observational and scientific would seem to support such a conclusion. As Howard Gardner wrote in *Frames of Mind: The Theory of Multiple Intelligences*, creativity defines all intelligence at the highest level. If in fact, we can grow creative myelin, then it may also be possible that this creativity developed through music, could spill over into other domains; perhaps explaining how many CAD students have gone on to successful creative careers within their respective fields.

For example, graduates of the CAD program are conducting research in artificial intelligence, pediatric autism, solar energy, and computer science. In the field of music, they perform in major string quartets and orchestras and receive international recognition as composers and improvisational artists.

An Equal Partner

Creative Ability Development is not meant to replace current methods of musical education; it is designed to be used alongside as an equal partner. Without technique, it would be impossible to develop the creative side of musical ability: But without the development of the creative side, we will force students to become like museum pieces, holding up a tradition of imitation. While there is greatness in history, contemporary creative genius needs the educational opportunity to grow and develop. With CAD, we now have the means to make this happen.

Results

Unique Musicality, Artistry, and Genius

$$\begin{array}{c} \text{Music} \\ + \\ \text{Creativity} \\ = \\ \text{Unique Musicality} \end{array}$$
$$\begin{array}{c} \text{Unique Musicality} \\ + \\ \text{Great Technical Ability} \\ = \\ \text{Artistry} \end{array}$$
$$\begin{array}{c} \text{Great Intelligence} \\ + \\ \text{Great Creative Ability} \\ = \\ \text{Genius} \end{array}$$

Inspiration is

- The greatest accomplishment of the human brain
- The source of all the development of mankind – in science, art, literature, music – even humanity.

Inspiration is also something we can teach!

Facilitation is the art of making something easy. As teachers we can facilitate the development of creative ability in our students, and by doing so draw out each child's unique voice.

Innovation is being willing and able to take the road less traveled to make a difference.

In *Nurtured by Love*, Suzuki described his meeting with a young man named Kauffman. While staying at Einstein's house, Suzuki witnessed Kauffman improvise on the piano in multiple styles. He wrote "Whether Kauffman's amazing skill at improvising would lead to his becoming a great composer or not is beside the point. I was deeply impressed by his talent, and it struck me that this kind of skill could be developed. What a delight it would be!" Dr. Suzuki in his great wisdom saw this as a potential area of development over 50 years ago. When I visited Dr. Suzuki in 1984 and shared my ideas with him, he asked me to continue to study creativity so that someday all children might improvise and write their own music. I have made it my life's work.

A Guide to Creative Ability Development II

Alice Kay Kanack

Close your eyes and 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....you have just entered the world of Creative Ability Development.

Creativity is the art of choice: Choosing what we as individuals like and dislike, is how we develop our own musical 'voice'. In order to learn, we must first create that which we may choose to discard. Keep in mind as you work creatively, that your harshest critic is often yourself. It is only by going through this process that we will discover the most beautiful and honest expressions of ourselves as individuals.

The freedom of choice + Disciplined practice = the development of creative ability!

Rules of Conduct

Essential for Creative Achievement

In any creative endeavor that involves more than one person, it is critical that there be rules of conduct. The creation of an environment that feels safe and supportive to all players is essential for creative achievement. In all my classes on 'Creative Ability Development' I always use three rules to set up a "creative environment":

Rule #1 – There's no such thing as a mistake

"There's no such thing as a mistake" is perhaps the most important rule. In any creative endeavor, the act of creativity is about making choices: choices of what is most beautiful, or most honest, or most right to the individual making the choices. There will always be choices we make, we don't like. These choices are not wrong (i.e. mistakes); they are simply our way of searching for what we will eventually like. Therefore, a 'mistake' is a path to success! Without these paths we cannot reach our creative goals! Further, 'mistakes' in a quartet format lead to better communication skills among the players, and a higher level of creativity needed by all to make the mistake work in the context of the piece. A supposed 'mistake' often leads to a better performance or creation.

Rule #2 – Applause and Silence

The "Applause and Silence" rule has to do with respect and communication. "Silence" simply means to listen intently when someone is playing. All ideas come from somewhere. By listening to others, we become filled with ideas that later become transformed and are expressed as our own. This is not stealing - this is sharing and building. No two ideas are ever exactly alike! "Applause" really means to respect and appreciate the sharing of ideas. It can, but does not necessarily mean applause in a literal sense: It means more acknowledgement in words spoken or not spoken, expressions on faces, or a musical response that shows a connection.

Rule #3 – Never criticize a friend

"Never criticize a friend" is an extension of Rule #1. Because "there's no such thing as a mistake," no one can criticize another's idea. Also, there is the realization that whatever our relationship is outside the creative environment, we must all be 'friends' within it. Without this kind of peer support we cannot hope to succeed in a combined creative endeavor. With support from our friends the possibilities are endless!

The Role of the Teacher (the facilitator)

The role of the teacher in Creative Ability Development is subtly different than that of the typical music teacher. The term 'facilitator' would be a more appropriate designation. Though some explanations of rules and structures are necessary, the teacher acts more often as a catalyst to the students' creative exploration. There are several important and specific ways to accomplish this task:

Provide an environment free from criticism

Do not tell or allow anyone in the room to tell a student how to create a part (Unless, of course, it is a part of the specific instructions for the piece, like a round melody, or a bassline for example). Students will lose confidence if they feel that the teacher or another student would like to change their original ideas. Lost confidence would result in students participating less and less, diminishing everyone's chances for creative development!

Participate as a musical creator

Inspire and support the music making by joining in the play. Whatever your level of accomplishment, students will gain from your participation as an improviser. You may serve as a guide through musical structures or a giver of musical ideas through your play. When you are willing to share the intellectual and emotional challenge of searching for your own ideas, you serve as both a role model and a moral support.

Impart music theory while maintaining a limited influence

Help build confidence and understanding of music theory by teaching the theoretical and structural concepts in Improvising String Quartets. There is a great deal of music theory introduced in these pages, through instructions and variations. But instruction is only one piece of this understanding. Realizing that you as teacher, or facilitator, should have only limited influence is key to allowing the students to develop theoretical skills in their own creative ways. They can then understand music theory intellectually as well as intuitively and musically, and this is a much greater understanding.

Provide consistent opportunities for disciplined creative practice

Discipline in the form of repetition is key to any kind of musical development, but it is especially important in the development of creative ability. Repetition of the creative process is how our brains grow or acquire the connections needed to develop creative ability. By providing regular 'practice' opportunities in an environment 'safe' from criticism, you will create the means by which all of your students may succeed. You will be able to observe as they grow and develop musically and creatively. It is a beautiful and inspiring process!

These four specific ideas are the basis of your role in teaching the Improvising String Quartets concepts:

- 1) Provide an environment free from criticism.
- 2) Participate as a musical creator
- 3) Impart musical theory while maintaining a limited influence.
- 4) Provide consistent opportunities for disciplined creative practice.

It takes creativity on your part to provide an environment free from criticism. It takes courage to participate as a musical creator along with your students. It takes knowledge, study and wisdom to impart the music theory necessary to accomplish the quartet structures while still maintaining a 'limited' influence. And finally, it takes a commitment to the concept of creative growth, to find a way to provide consistent opportunities for disciplined creative practice.

Games

Pre Twinkle Level – Stage 1: “Breaking the Ice”

Start Stop
Tapping
Rhythm Machine I (Pattern and Freedom)
What’s the Answer to my Question (in pairs)
Animal Guessing Game
Drum Leaders

Basic Level – Stage 2: “Finding your voice”

‘It’ Game
Soccer
Movable Soccer
Rhythm Machine II
Harmonic Rhythm Machine
Drum Melody Harmony
What’s the Answer to my Question (revolving duos)
What’s the Answer to my Question (enter low exit high)
Wac-a-Mole
Animal Guessing Game
Opposite Strings
What’s the Answer to my Question (multiple meters and keys)
Basslines
Modal Trios
Lights Out

Advanced Level I – Stage 3: “Sharing Your Voice”

Cadenza Game
Solo Animal Guessing Game
Drum Harmony Melody
Melodic Soccer over a Harmonic Rhythm Machine

Advanced Level II – Stage 4: “Breaking Away”

“Improvising String Quartets”
Rhythm Machine – development of rhythm and playing in sync
Drone – development of melodic skills
Soccer – development of communication
Follow the Leader – playing in sync using pitch
Rounds – development of harmonic skills
Telephone – development of motivic communication
Cross Imitation – playing in sync
Basslines – creating harmonic structures
Ostinato – creating harmonic counterparts
Limitations – One – creating structure without pitch
Rotating Roles – combining ostinato, melody, color, and rhythm
Passacaglia – improvising using techniques of variation
The Canon – improvising canonically
Minnows - development of aleatoric skills

About Alice Kanack

Nicknamed “Mozart’s Mother” by Dr. Shinichi Suzuki in 1984, Alice Kanack has spent 30 years researching, teaching, and writing about how the creative process works in the brain. With the Alfred Publishing Company, Alice published five books in the Creative Ability Development series. Her newest works, *Improvising String Quartets and Basslines & Fantasies* have been published through Creative Ability Development Press. She currently lives in Rochester, NY with her two children, Daphne and Alexander, directing The Kanack School of Music. Frequently a guest lecturer at national conferences, Alice brings Creative Ability Development to enthusiastic audiences worldwide.

Works in the Creative Ability Development Series

Musical Improvisation for Children

A keyboard based book for beginners of any age. It includes musical stories, fantasy pieces, and more. *Musical Improvisation for Children* also includes games for children to play together, so it’s great for young group classes. This introduction to Creative Ability Development includes a CD for use with any kind of keyboard.

Fun Improvisation for Violin, Viola, Cello, or Piano

Originally titled *Creative Ability Development Book 1*

These instrument-specific books are paired with a practice CD and are designed to work in conjunction with early Suzuki studies. They also serve as an excellent introduction to Creative Ability Development for intermediate students new to the method.

Basslines & Fantasies: Creative Ability Development Book 2

This newest addition to the series includes two recording discs for improvisational practice. With the end goal of creative fluency in all 12 keys, this single and compact book includes a wealth of animal-themed fantasy pieces, finger charts, and practice strategies for violin, viola, cello, and piano, making it perfect for siblings playing different instruments.

Improvising String Quartets

Intended for advanced players and professional musicians, *Improvising String Quartets* can be used with large or small combinations of instruments. This invaluable text is the primary resource for the widely acclaimed Creative Ability Development Tour Group at the Kanack School, whose students employ this book weekly as a warm-up and source of inspiration for more sophisticated improvised works.

www.creativeabilitydevelopment.com

www.kanackschoolofmusic.com