



# **Creative Thinking in Music: Preparing Teachers**

## **I. Building the Case**

## **II. Assessment of Aptitude (Potential)**

## **III. Achievement: Creative Activities But Not just Composition and Improvisation**

## **IV. Implications for Higher Education**

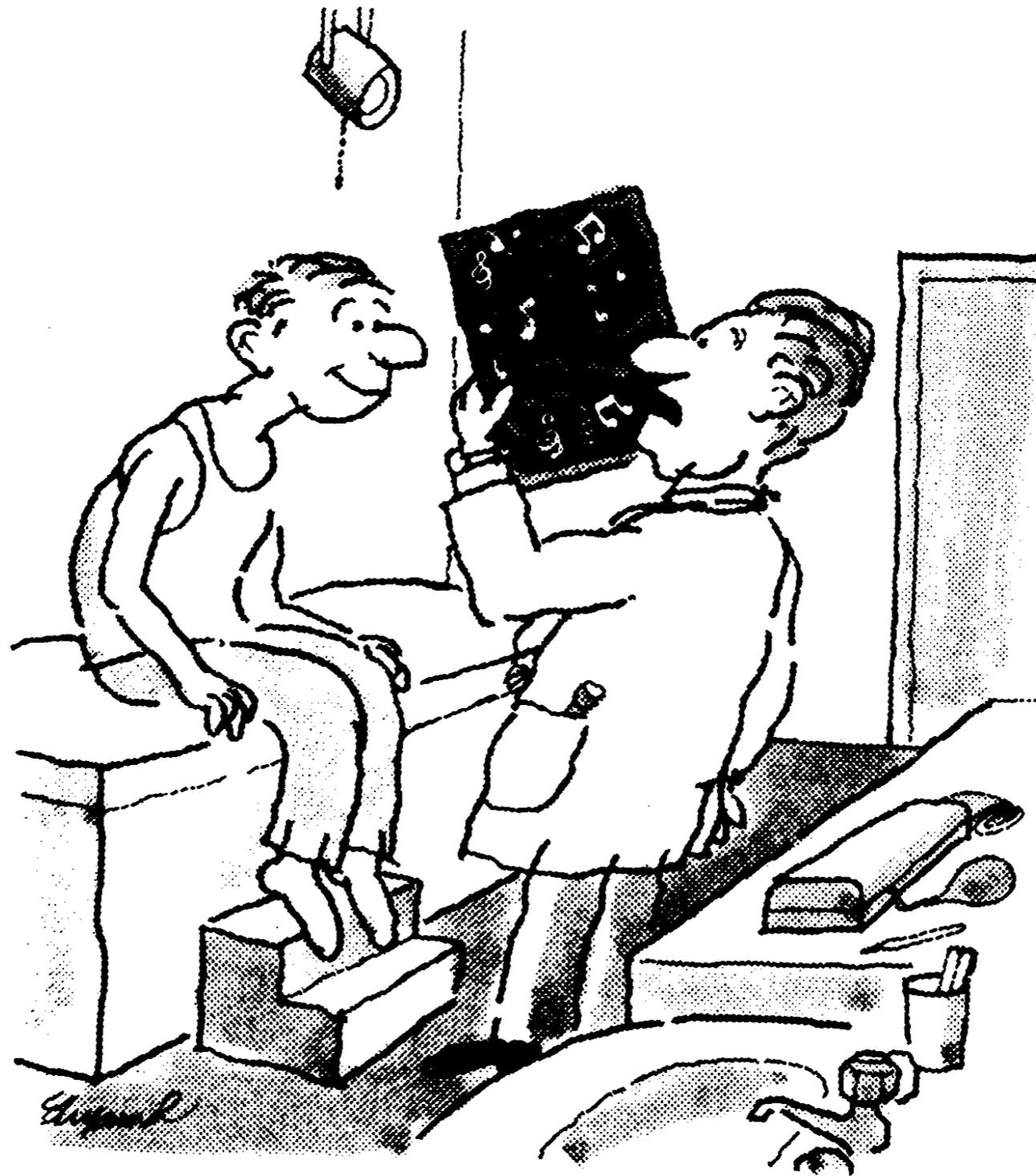
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# References for Talk

- \* <http://www.peterrwebster.com/> Sample Publications
- \* iBook: *Coming about: A retrospective review of, and reflections on, the writings of Peter Webster*
- \* Webster, P. (2016). Creative thinking in music, Twenty-five years on. *Music Educators Journal*. 102(3), 26-32.
- \* Webster, P. (1990). Creativity as creative thinking. *Music Educators Journal*. 76 (9), 22-28
- \* Webster, P. (2011). Constructivism and Music Learning. In R. Colwell and P. Webster (Eds.) *MENC Handbook of Research on Music Learning*, Vol. 1, (35-83) New York, New York:Oxford University

# I. Building the Case for the Importance of Creative Music Teaching and Learning





*All I can see is music, lots of  
it, simply dying to get out.*

Ask yourself:  
How do I construct my  
understanding of the  
world? How do I  
construct my  
understanding of music?



# Constructivism

- Knowledge is formed as part of the learner's active interaction with the world.
- Knowledge exists less as abstract entities outside of the learner and absorbed by the learner; rather it is constructed anew through action.
- Meaning is constructed with this knowledge.
- Learning is, in large part, a social activity.



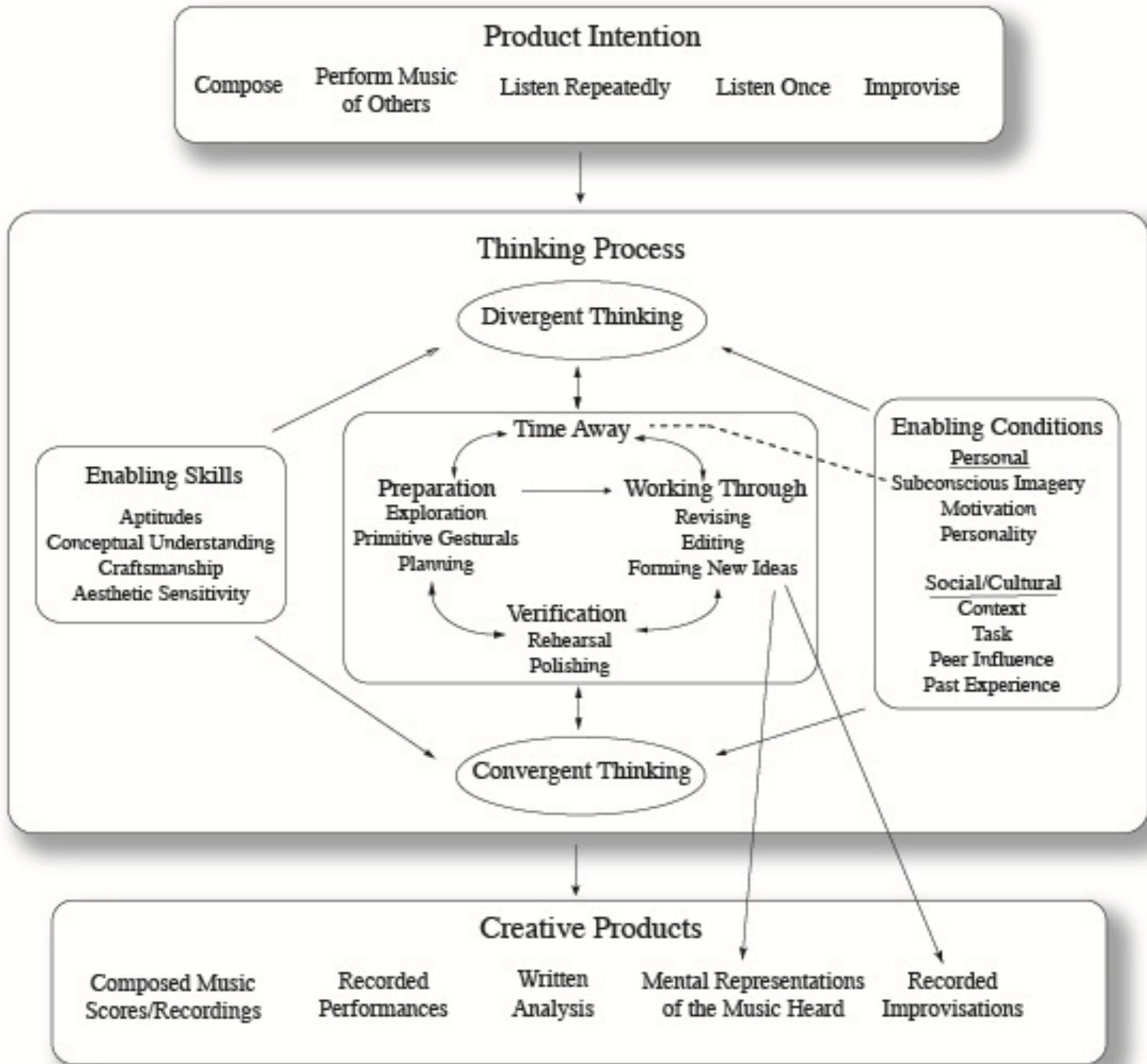


## Answer Might Be: *Adapted Constructivism*

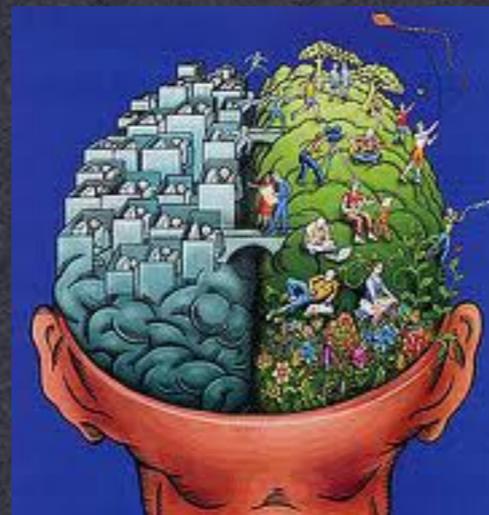
- Much in our profession that can be established effectively with top-down approaches
- But there is much room for encouraging the application of this knowledge in constructivist ways
- Students must learn to think **in** and **about** sound in ways that end in independent thinking
- For those learning goals that do not involve sound itself, ( i.e. ways to effectively practice, work musically with others, deal with stakeholders like parents and administrators, similar hopes for teaching independent and effective active action is important
- Less emphasis on covering large amounts of information quickly and less information more thoroughly

Creativity is the interaction among **aptitude**, **process**, and **environment** by which an **individual** or **group** produces a perceptible **product** that is both **novel** and **useful** as defined within a **social context**

Plunker, J., Beghetto, R. & Dow, G, ( 2004). Why isn't creativity more important to educational psychologist? *Educational Psychologist*, 39(2). 83-95



Creative thinking in the arts is a dynamic mental process, alternating between divergent and convergent thinking, moving in stages over time. It is enabled by internal musical skills and outside conditions and results in a final musical product which is new for the creator



# CREATIVE THINKING IN MUSIC

Ultimately, as educators in the arts, we are successful if we engage our students in thinking about the core of our art forms by blending imaginative thought with mastery of skills and knowledge.

# Key Question

**Have I maximized the opportunities for all learners to make their own aesthetic decisions with my guidance and encouragement?**



# Achievement VS Aptitude

## Aptitude v. Achievement Tests

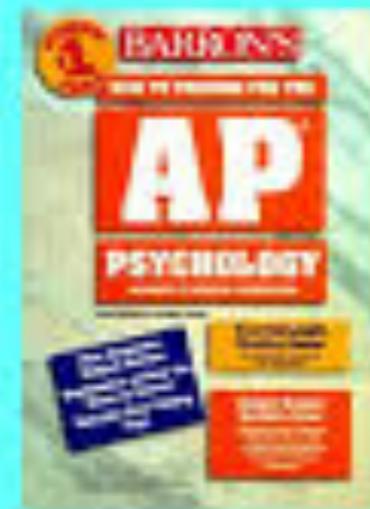
### Aptitude

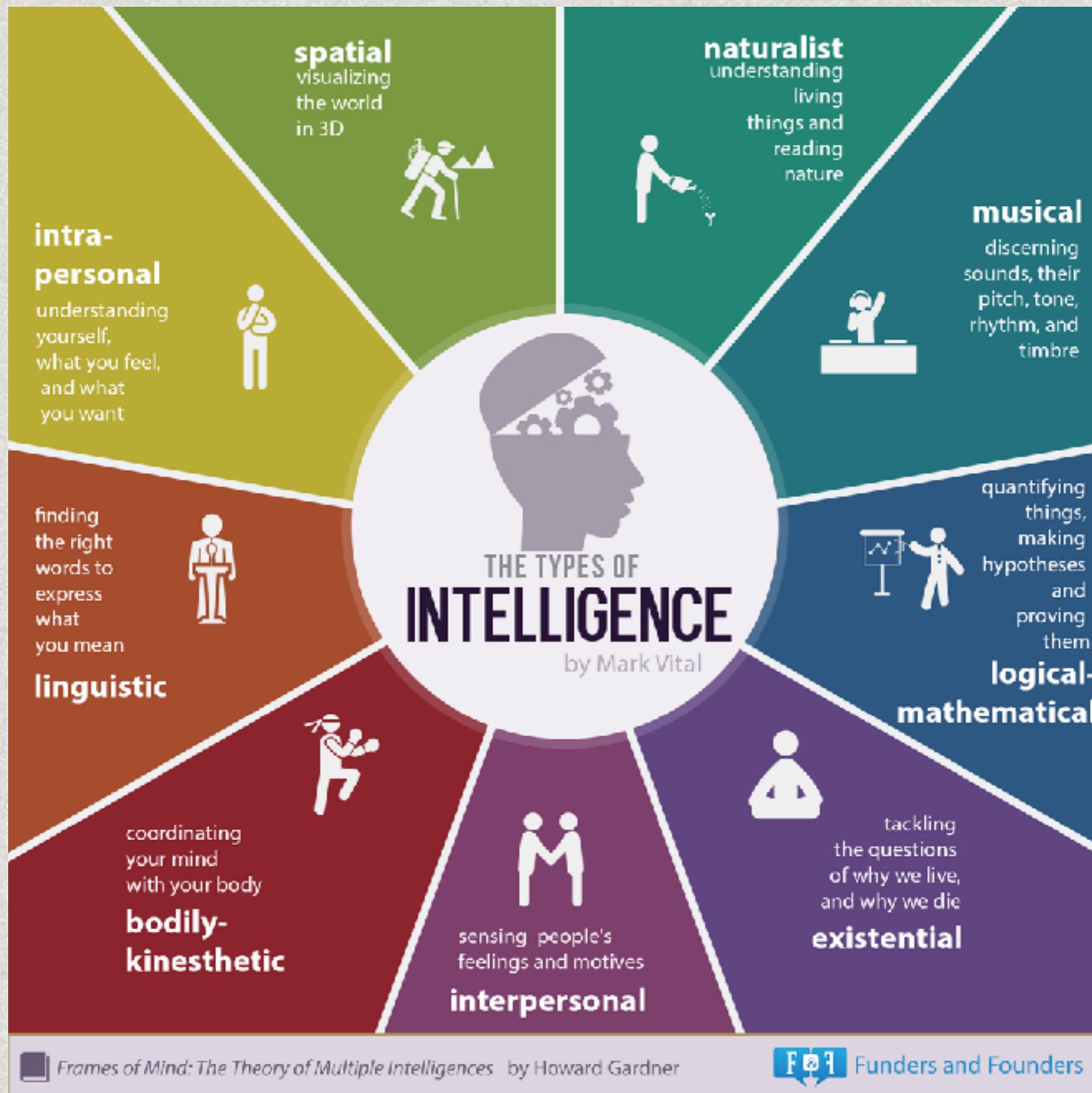
- A test designed to predict a person's future performance.
- The ability for that person to learn.



### Achievement

- A test designed to assess what a person has learned.





# Naïve vs. Expert

- **Big C** and Little C ideas of Creativeness TOO Narrow!

- How about:

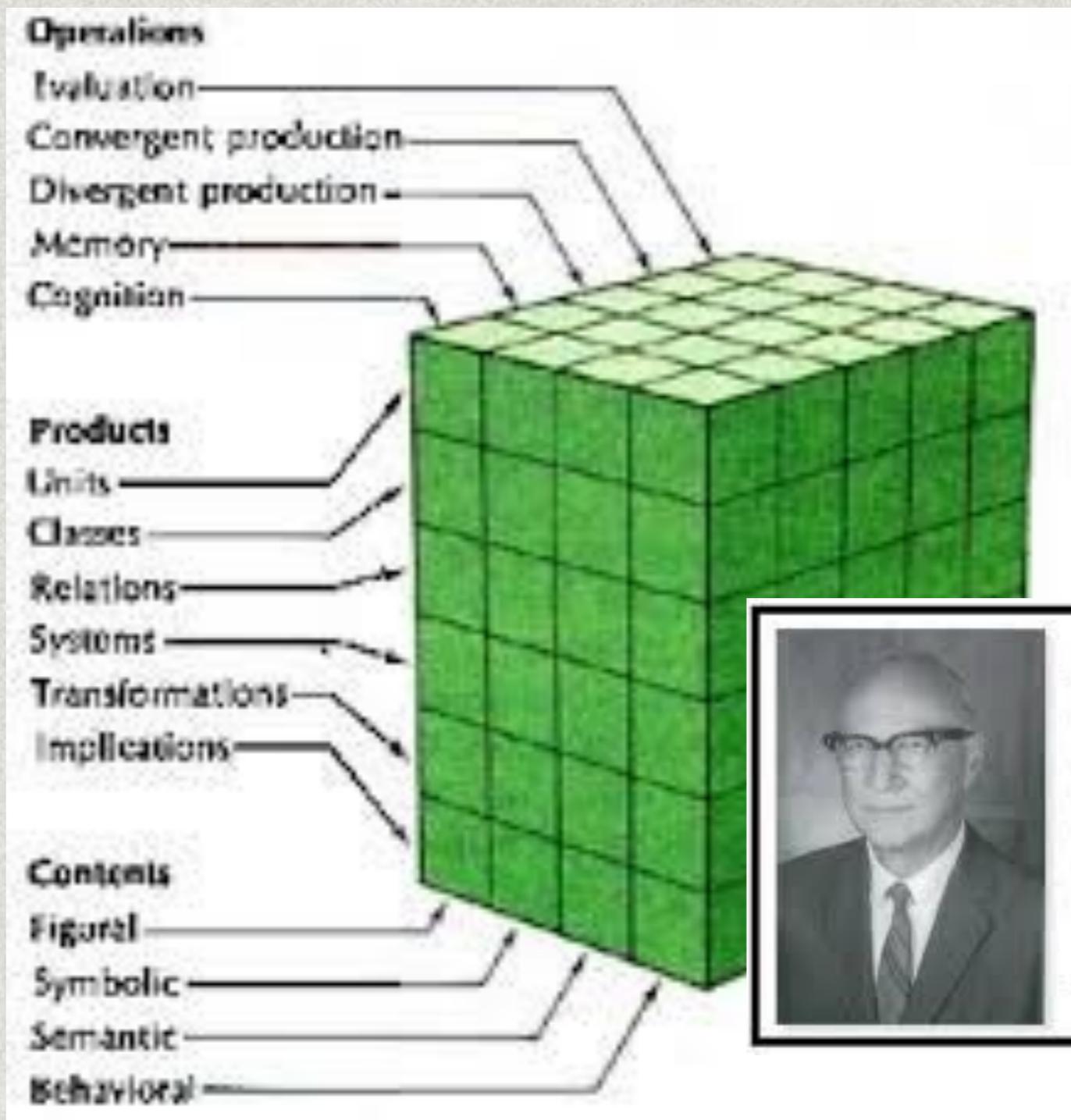
- Mini C

- Little C

- **Pro C**

- **Big C**



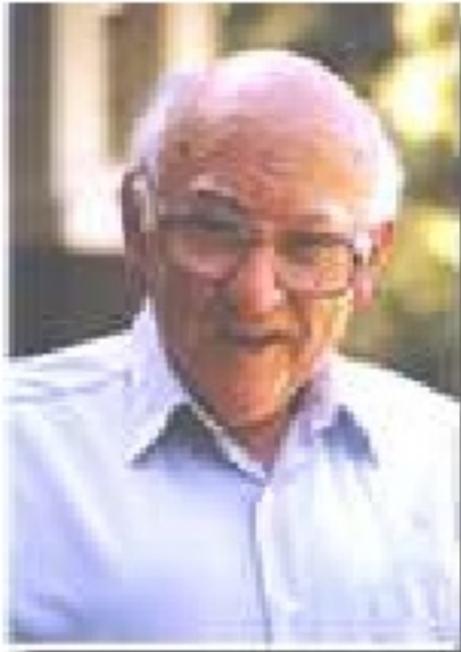



The learning of subject matter obviously involves the operations of cognition and memory; the constructing and the storing of items of information. Teaching must be tailored to fit each kind of information.

- J.P. Guilford

Convergent vs Divergent !!!!!!!

# Torrance Tests of Creative Thinking



Source: [willpower4life.com](http://willpower4life.com)

- Product-oriented, originality-based definition
- Relatively simple verbal and figural tasks that involve divergent thinking plus other problem-solving skills
- Scored for **fluidity, flexibility, originality, elaboration**
- Flaws in different cultures

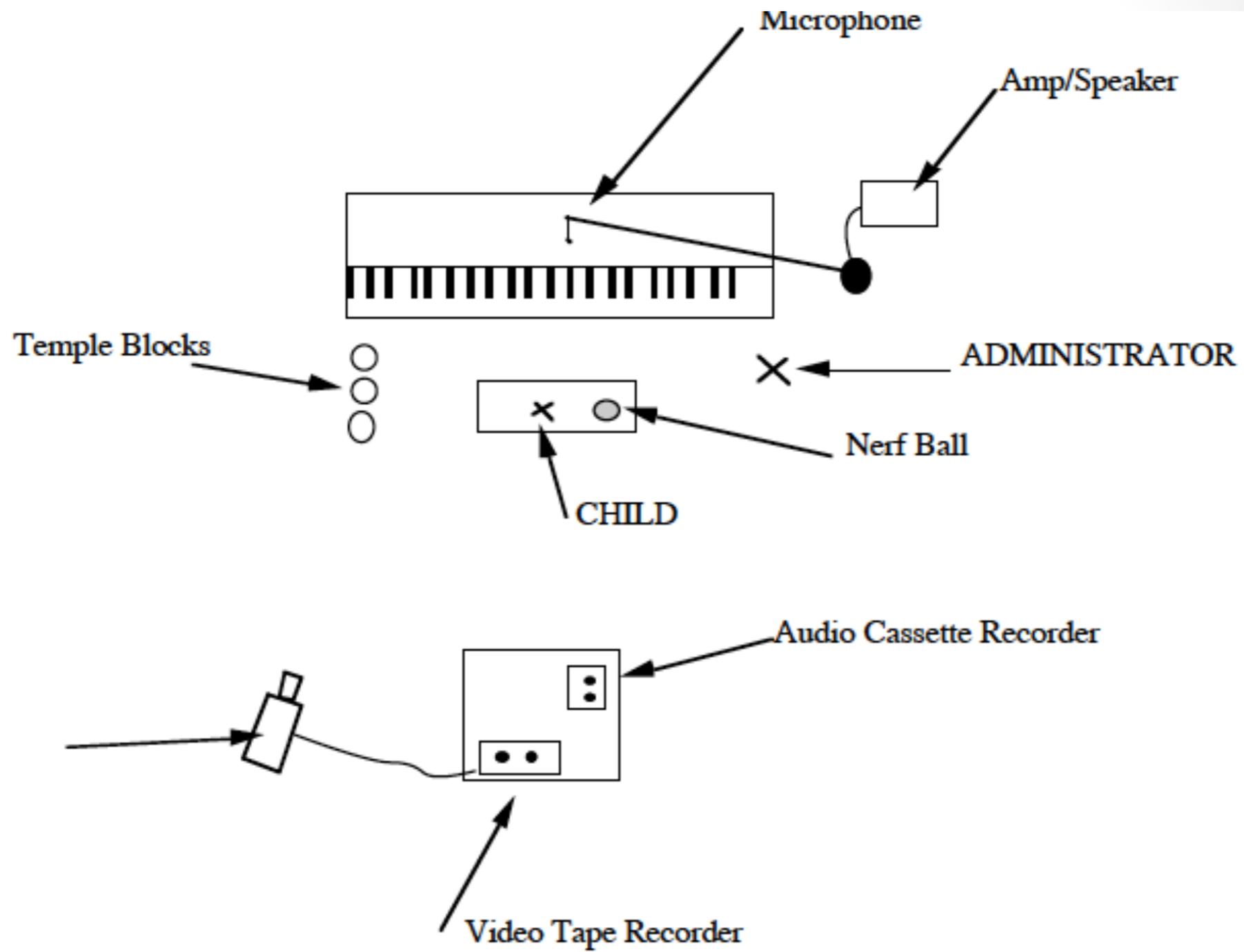
# Work in Music

- Early Work (historical)
- MCTM-II (popular)
- MET (very recent)

# MCTM-II

- Webster's *Measure of Creative Thinking in Music* (MCTM-II) (1994) is perhaps the most widely used measure of its type among scholars working in music education. It is freely distributed and actively supported. It grows out of a desire to provide a music-based, assessment tool for potential creative ability in music. Developed over a period of 12 years (1982-94), the measure has seen two versions and is now being revised a third time (forthcoming).

- It is designed for children, ages 6-10, with no expectation for formal musical experience and was meant to function as an aptitude instrument and not necessarily a measure of creative achievement
- Although inspired by the divergent thinking research in the general literature, it uses scoring factors that reflect both divergent and convergent thinking in the construction of quasi-improvised products
- Video recording of improvised performances are rated both by a single researcher (flexibility and extensiveness) and a panel of judges (originality and syntax).
- Unlike typical consensual assessment approaches, the panel of judges is offered guidelines in the assessment of factors and asked to provide short explanations of why very high rankings are made. Also judges are encourage to view all the subjects' creative work once before submitting ratings in order to calibrate judgments for the sample.
- Scoring factors are converted to standard scores and summed for a cumulative score.
- Subjects use three easily-played, informal sound sources of differing timbre that are capable of creating sounds that are capable ranges from high to low, fast to slow, loud to soft. Voice is one of the sound sources.
- A set of exploratory tasks are used to begin the measure that familiarize the subject with the sound sources and how they are played.
- Tasks start with very short time requirements and then progress to the creation of quasi-improvisatory compositions that are longer and allow more complex use of sound sources.
- Subjects are given time to “think about” their quasi-improvisatory compositions before performing them.
- Subjects are offered graphic depictions as prompts which researchers can alter for their purposes.
- In subsequent research by others, MCTM has been adapted for older and younger subjects and used for subjects with special needs. Others have used MCTM-II as a dependent variable in research design. (see the Reference section below for citations of studies that have used the measure in various ways.)



TASK	Musical Extensiveness (ME)	Musical Flexibility (MF)	Musical Originality* (MO)	Musical Syntax* (MS)
1 Rain Bucket		_____		
2 Elevator		_____		
3 Truck		_____		
4 Robot Song	_____	_____	_____	
5 Talking Blocks (Responses)	_____	_____	_____	
6 Talking Blocks (Stimuli)	_____	_____	_____	
7 Frog Music	_____	_____	_____	_____
8 Space Pictures	_____	_____		
9 Space Voyage	_____	_____	_____	_____
10 Free Composition	_____	_____	_____	_____
<b>Raw Totals</b>	_____	_____	_____	_____
Standard Score	_____	_____	_____	_____



<u>Swanner (1985)</u>	Correlation	N=69, 3rd graders	personality, gender, music aptitude, intelligence
<u>Schmidt/Sinor (1990)</u>	Correlation	N=47, 2 <sup>nd</sup> graders	cognitive style, music aptitude, gender
<u>Baltzer (1990)</u>	Correlation	N=90, 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> graders	age, gender, music achievement, academic achievement
<u>Wolfe/Linden (1991)</u>	Correlation	N=40, 3 <sup>rd</sup> grade	intrinsic motivation, music aptitude
<u>Racana (1991)</u>	Pre-post Test	4 <sup>th</sup> graders	Effect of computer-based music lessons
<u>Amchin (1995)</u>	Pre-post Test	N=129, 4 <sup>th</sup> and 5 <sup>th</sup> graders	Student and Teacher Interactions
<u>Hickey (1995)</u>	Correlation	N=21, 4 <sup>th</sup> and 5 <sup>th</sup> graders	compositional process, teacher ratings, musical composition quality
<u>Hagedorn (1997)</u>	Descriptive	N=20, 1 <sup>st</sup> , 2 <sup>nd</sup> , 4 <sup>th</sup> , and 5 <sup>th</sup> graders	hearing-challenged vs. hearing students, family environment, gender,
<u>Fung (1997)</u>	Post test	N=66, 1 <sup>st</sup> , 2 <sup>nd</sup> graders	effect on exposure to sound exploration program
<u>Boehm (1999)</u>	Pre-post test	N=39, 1 <sup>st</sup> graders	Effect of compositional teaching approach (invented notation), test of visual contours, music aptitude, music background, music achievement
<u>Dingle (2006)</u>	Correlation	N=90, 7 <sup>th</sup> , 8 <sup>th</sup> graders	music aptitude
<u>Koutsoupidou (2008, 2009)</u>	Post test	N=25, 1 <sup>st</sup> graders (6-year olds)	Effect of teaching style that included music improvisation in teaching

# Music Expression Test (MET)

(Barbot and Lubart, 2012)

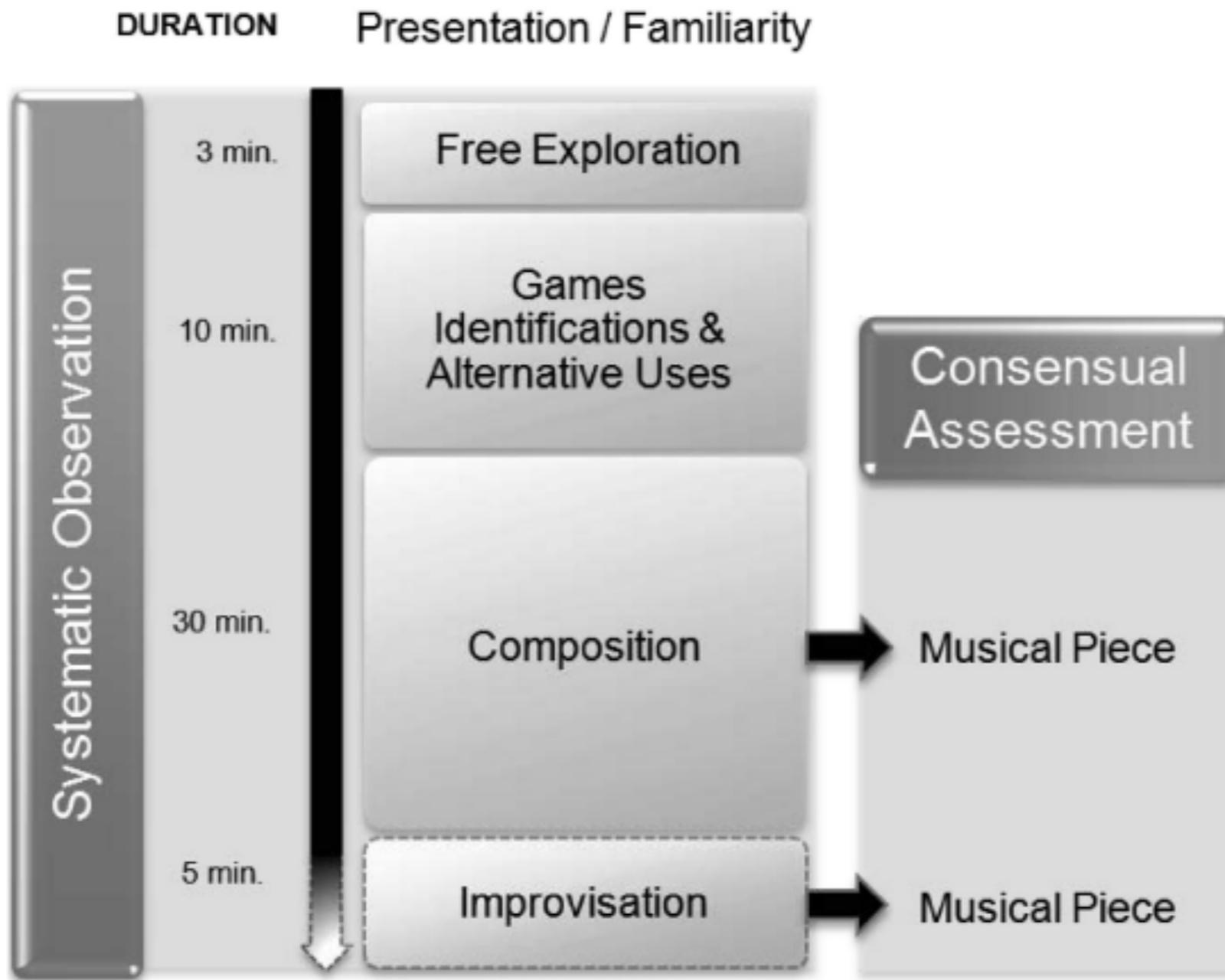


# Music Expression Test (MET)

## Barbot and Lubart (2012)

- Intended for children, adolescents, and adults with little previous music performance or composition experience, the measure is administered individually and is designed in four stages: free composition, mini-games, composition, and improvisation. Total time for administration is estimated to be one hour and is offered individually within a music workshop setting.
- MET uses percussion and melodic instruments of various types for the more divergent tasks and also uses computer-based sequencing software for the creation of music products. Scoring uses a complex system of rater evaluation which researchers identify as *orientation*, *structure*, and *function*. Consensual assessment techniques and more defined rating scales are also used for music products in the final stages.

# STAGE



# III. Achievement: Creative Activities But Not just Composition and Improvisation





OK, so how can I build on  
Creative Aptitude **Constructively** in  
my music teaching????



# Musical Experiences (MEs)

- Compose
- Perform our own Music (Improvisation)
- Perform the Music of Others
- Listen

Thinking In Sound





# Engage Students in Creative Thinking in Music in the Performance of Others Music and Listening!!!!!!

- ✱ Engage them in .....



Instructional strategies that can foster and allow  
for the achievement assessment of creative  
thinking in music — thinking in sound —  
building on aptitude

- Simple questioning students about the music to encourage musical understanding
- Listen to several recordings by different ensembles of the same piece and discuss differences
- Perform a section of music in three different ways
- Make use of recorded rehearsals sequences that can be listened to at home and written about
- Encouraging student conductors for each concert

Instructional strategies that can foster and allow for the achievement assessment of creative thinking in music — thinking in sound — building on aptitude

- Projects done collaboratively resulting in a project about the performed music that can accompany a public performance
- Small ensembles of different kinds of music as part of public concerts (some of that music might be student composed) that might be student lead
- Projects that revolve around diagrams of musical scores without the use of conventional notation

Instructional strategies that can foster and allow  
for the achievement assessment of creative  
thinking in music — thinking in sound —  
building on aptitude

- Teacher assuming the role of student and student as teacher
- “Covering” of a well known multi-part composition
- Music listening exercises that are game-based
- Physically representing the music structure with students forming body structure/dance/movement
- Making more systematic use of Internet video/audio exchanges in real-time with a class/ensemble in another town, state or country

Instructional strategies that can foster and allow  
for the achievement assessment of creative  
thinking in music— thinking in sound —  
building on aptitude

- \* Move the music class/ensemble to an outdoor setting and record sounds from the environment to form a composition
- \* Bring an art or English teacher to class to discuss their understandings of music as it relates to their fields of study, then do the reverse
- \* Have students all bring their music players to class/ensemble and randomly select tracks to listen to and discuss

Instructional strategies that can foster and allow  
for the achievement assessment of creative  
thinking in music — thinking in sound —  
building on aptitude

- \* Make systematic use of Twitter software to record reactions to a weekend's music consumption
- \* Use cell phones in class/ensemble to record reactions to music
- \* Others???????

# Key Question

**Have I maximized the opportunities for all learners to make their own aesthetic decisions with my guidance and encouragement?**

# IV. Implications for Higher Education



# Big Ideas

- Philosophy: Adaptive Constructionism
- Creative Thinking in Music
- Interdisciplinary Connections
- Embedded, student-centered assessment
- Broadening of WHO we teach
- Reconsideration of WHAT we Teach
- Rethinking of WHERE we teach

# College Music Society Task Force Manifesto



- Presented publicly at the 2014 Fall Meeting in St. Louis
- What does it mean to be an educated musician in the 21<sup>st</sup> century?
- 18 months in the making and was created by a cross-disciplinary panel of college professors in music (not just music education professors!!)

## Important basis of work

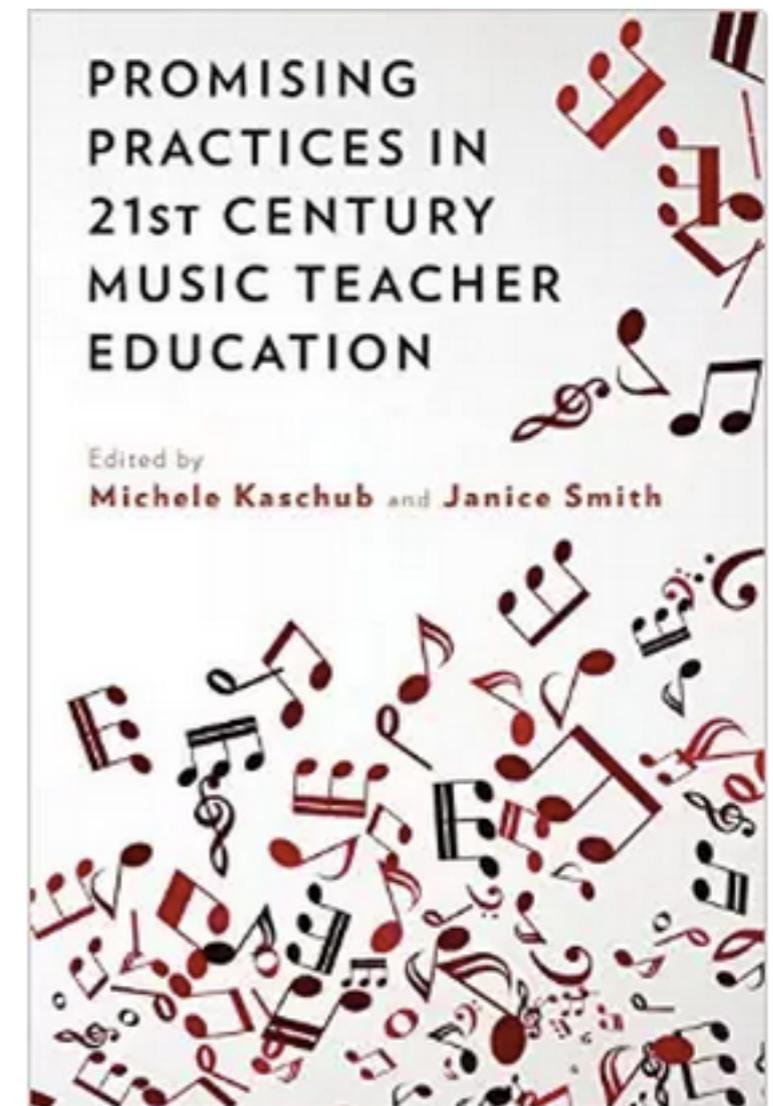
Factors include an expanding, interconnected global society with its cross-cultural influences, crossover stylistic expressions, electronic as well as acoustic performance and production, advances in technology, access and transmission afforded by the internet and digital media, and growing creative impulses for many real-world musicians in the form of improvisatory and compositional endeavors.

- Three pillars upon which the report rests: creativity, diversity, and integration
- Improvisation and composition are of equal importance to the training of performers to interpret the works of others
- Students should engage in music of many cultures and with more varied ways of expression
- Integration across sub-disciplines in music



# Promising Practices

- USC Masters Credential
- University of Southern Maine
- SUNY Potsdam
- Miami University
- University of South Florida
- University of Massachusetts-Lowell
- Arizona State University
- Others?





## USC Masters in Contemporary Teaching Practice

The goal of this degree is to provide a credential path for those entering graduate music students that wish to teach in the public and private schools of California and other states.

The program will build on the students' undergraduate preparation in music

Special coursework in music in the lives of children and youth,

Contemporary teaching methods,

Music composition/improvisation

Reflective Practice

Community and entrepreneurial engagement,

Children with special needs and English Language Learners

(ELL) as mandated by the state of California

a special set of monthly mentoring sessions with USC faculty

online will occur in the first year of teaching after the degree

# Technology Competencies

1. Enter and edit music using notation software
2. Understand the basics of digital audio and how to edit digital audio files
3. Record and mix a performance with digital audio software
4. Demonstrate an understanding of copyright and fair use
5. Create a music presentation with production software and appropriate hardware
6. Create a streaming audio file (sharing recordings)
7. Demonstrate an understanding of MIDI and its applications including performing with electronic, digital, and non-traditional instruments
8. Demonstrate setting up a computer music workstation/  
problem solve technical issues
9. Demonstrate an understanding of acoustics and audiology
10. Create and edit a simple music video
11. Use and manage a variety of social music sharing tools

## **B. Music Theory/Composition Collaboration with Instrumental Music Methods**

*“Covering” leading to original composition.* Using informal practices of music making, an instrumental music education methods class or a theory class (or combination of both) will divide into small groups of instrumentals to “cover” a chosen piece. Groups will decide what music is to be played and how best to create the cover. No written music will be allowed. Music education and theory/composition faculty may serve as guides and for process. Time period would be two or three class sessions with some work outside of class by students without faculty present. Piece would be performed. This would be naturally followed by each group collaborating to compose and perform an original work that might be based on the musical properties of the cover. Discussion about how the task might be accomplished with students in K-12 environments and about copyright issues would be encouraged as follow up. Performances would be recorded digitally. Other software/hardware used in conjunction with acoustic instruments as needed. [Cloud-based creativity software like SoundCloud, Noteflight, and SoundTrap with social networking tools might be a good fit for this activity.](#) (CMS Task Force Pillars: Creativity, Integration)

## **D. Improvisation and Live Performance**

**Improvisation in the studio.** Learning improvisation skills and their application in live performance is an important part of musicianship across all styles of music. In private lesson instruction for example, teachers could encourage students to “rewrite” an established piece of music in real time with simple extensions and alternations that are in the stylistic domain of the music. Such experiments might lead to the composition of small works that are in the style of a composer like Beethoven or Chopin. Performance of this music might be enhanced by music software that features “live” recording and playback of music in real time. Students working with a variety of styles can create duets with their own playing together with computer-controlled blocks of sound triggered by the technology. One point of this project is to augment the largely Western view of music performance always needing to be based on a perfect performance and to open up the performance to other ways of music creation to include online social collaboration through web-based tools. Such experiences might lead to more work with free improvisation with other players. (CMS Task Force Pillar: Creativity)



## **O. Music Production with Dancers**

**Interdisciplinary collaboration.** This capstone might be accomplished by a student conductor, composer or group of students interested in interdisciplinary production from many fields of study. The idea would be to create a concert featuring the influence of black music in American culture. The concert would be a combination of (1) live performance of selected works from Afro-Cuban, Afro-Columbian, Afro-Brazilian, Afro-Bolivian, or Afro-Mexican styles (use of contemporary hip hop and rap-type music as well as jazz influences might be employed) and (2) short student-constructed explanations of the music for the audiences. The concert would be supported by visuals and dance. The concert would be organized by the ensemble participants, with major input from as many students in the ensemble as possible. Dancers would be an important part of the experience and choreography would be seen as key. The capstone could well be a collaborative students in music and dance and involve faculty in both music and dance departments or schools. The final performance might be recorded and software used to create a streamed video for sharing through social media tools. The final activity could be the production of a short documentary video that records the development of the project from inception to completion. (CMS Task Force Pillars: Creativity, Diversity, Integration)