Encouraging Imaginative Thought

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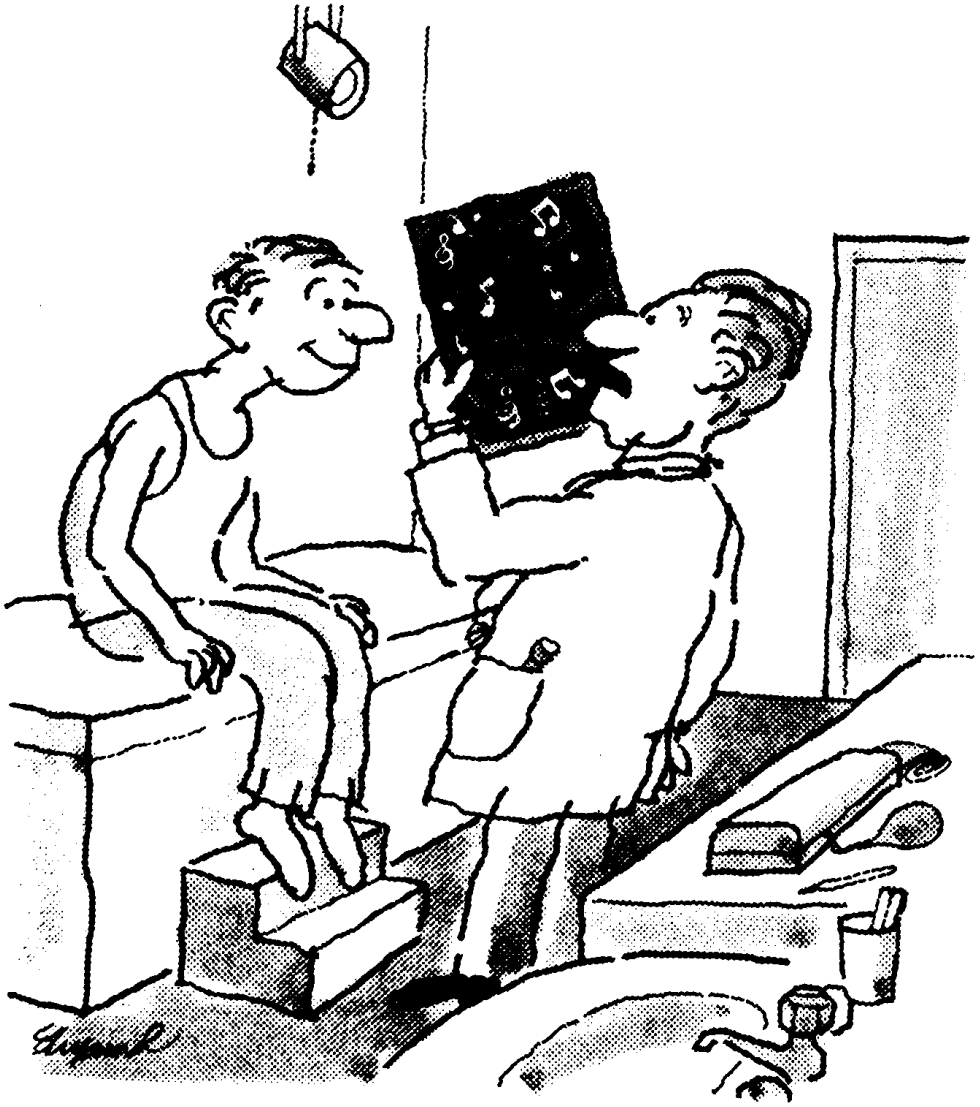


All I can see is music, lots of it, simply dying to get out.

Children Love to Make Music!!!
We Need to Let Them!!

Ways We Make Music

- Compose
- Perform Other's Music
- Perform Our Own Music (Improvisation)
- Listen

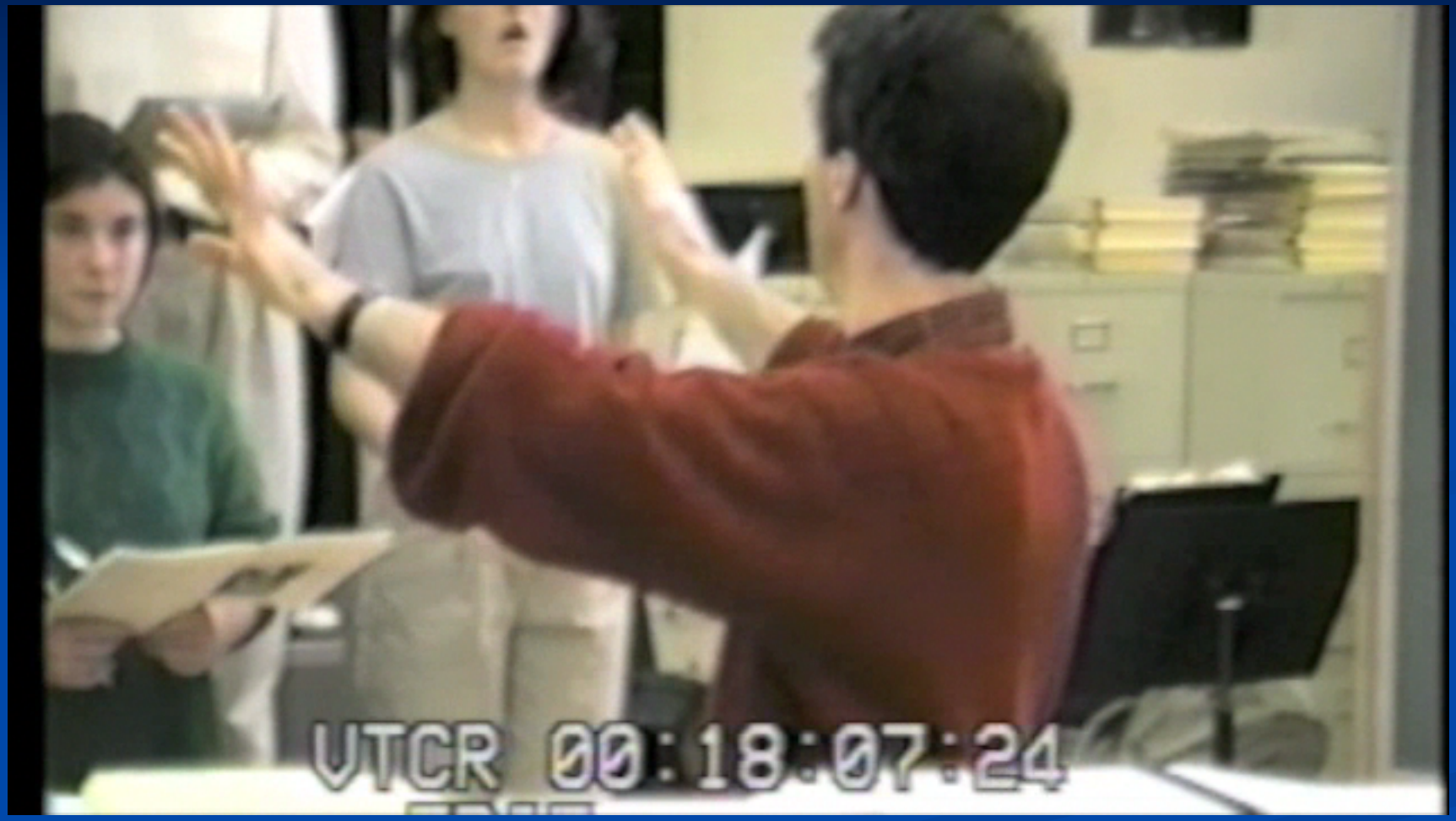
Imagine

Audage

Audiate

Key Question

Have I maximized the opportunities for all learners to make their own aesthetic decisions with my guidance and encouragement?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If we expect our students to be creative (divergent and convergent) in their thinking, perhaps we need to be as well.

FEB2006 MONTEREY CALIFORNIA

Overview

- Part I: Webster Biases: A Little Philosophy
- Part II: Approaches toAssessment
- Part III: Implications for Education with Special Emphasis on the Role of Music Technology

I. Webster's Biases: World of Constructed Thought and Action

- Constructive vs. Instructive
- Celebration of different kinds of thinking
- Projects
- Learner as Center, not Teacher
- Embedded Assessment

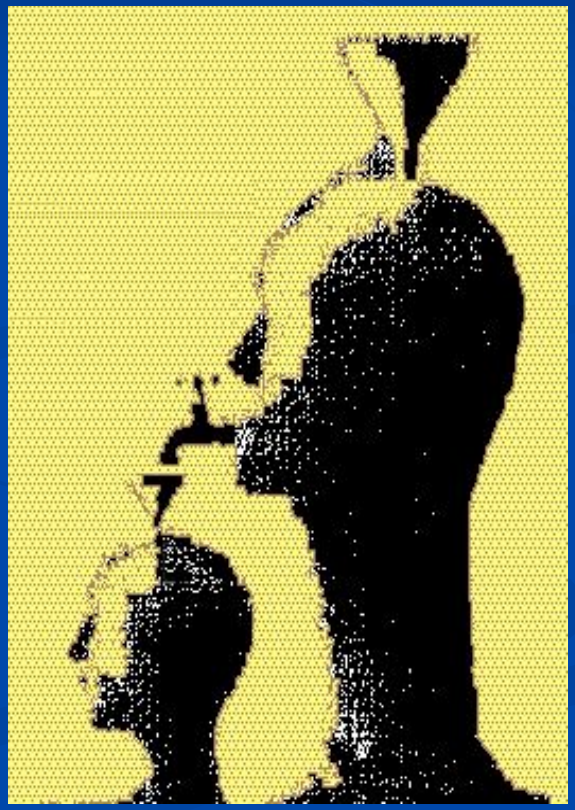
Pedagogical Concept	Older View	Newer View
Relationship Between Ideas	Hierarchical	Networked
Environment	Highly Structured	More Informal
Thinking	Lower-order, linear skills valued; convergent thinking, memorization	High-order, non-linear thinking valued, convergent and divergent thinking, application of knowledge, critical and creative thinking
Instructional goal	Memorization	Inquiry and invention
Relationship Between Student and Teacher	Instructors are experts with learners as passive receptors	Instructors are seen as mentors with students as active participants
Teacher Role	Fact Teller	Architect of school experience by creating opportunities for discovered learning
Student Role	Listener	Discover of learning with guidance from teacher and other resources
Classroom Activity	Didactic	Interactive
Approach to Knowledge	Accumulation of facts, centered in the classroom/school	Transformation and application of facts, knowledge sources both in and outside of the classroom/school
Role of Technology	Drill and practice reinforcement, information defined by the machine/system	Active agent for new knowledge via simulation, non-linear links, multimedia, interactivity
Assessment	Norm-referenced measures, standardized testing, objective measurement, teacher-centered	Criterion-referenced, portfolios of achievement, self-assessment, ruberic-based scales

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.

Instructor-Centered learning

-Hierarchical relationships
-Structured environments
-Instructors as experts
-Students have little or no knowledge
-Convergent Thinking is valued



Student-Centered

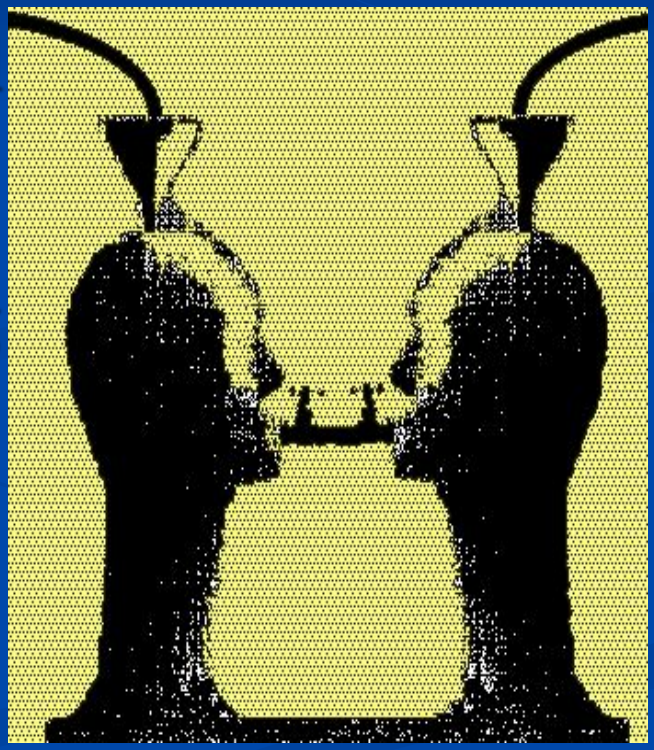
-Group learning celebrated

-Informal environments are valued

-Learners & mentors

-Students are recognized as having their own knowledge and experiences

-Combination of convergent and divergent thinking is valued



Learning happens in whole, authentic experiences—not in de-contextualized ways.

Problems are posed, products created, student's knowledge serves as a starting place.

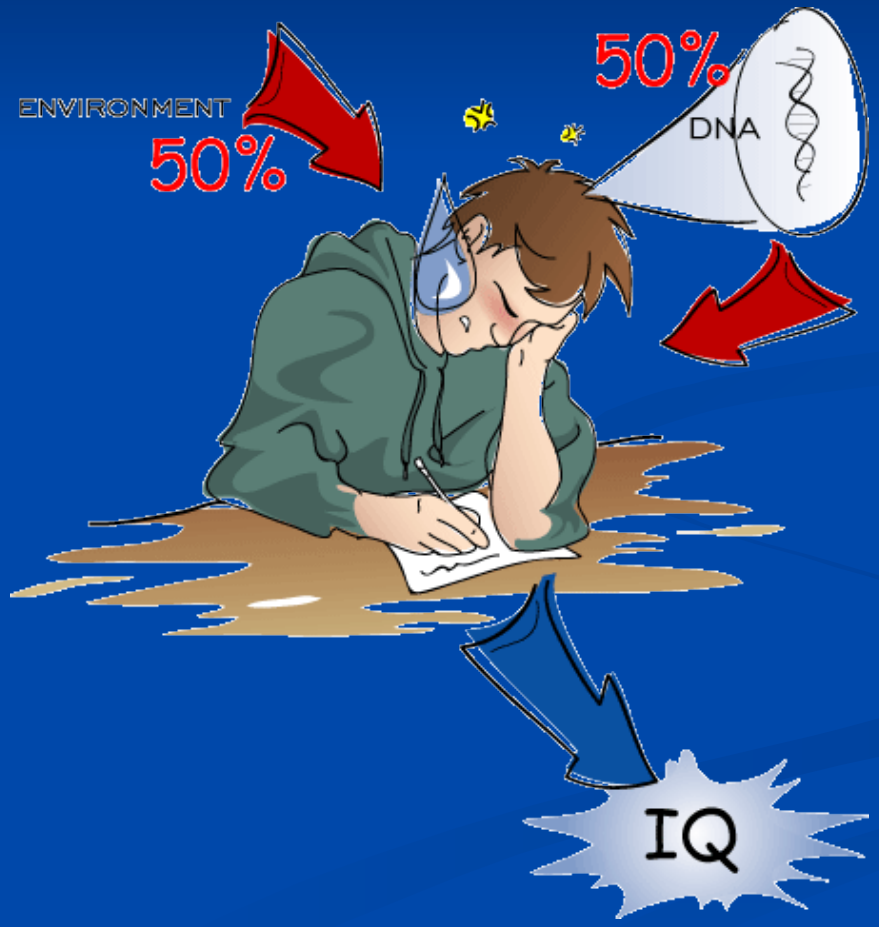
Primary Concepts and Big Ideas are Tackled!!

Answer Might Be:
Adapted Constructivism

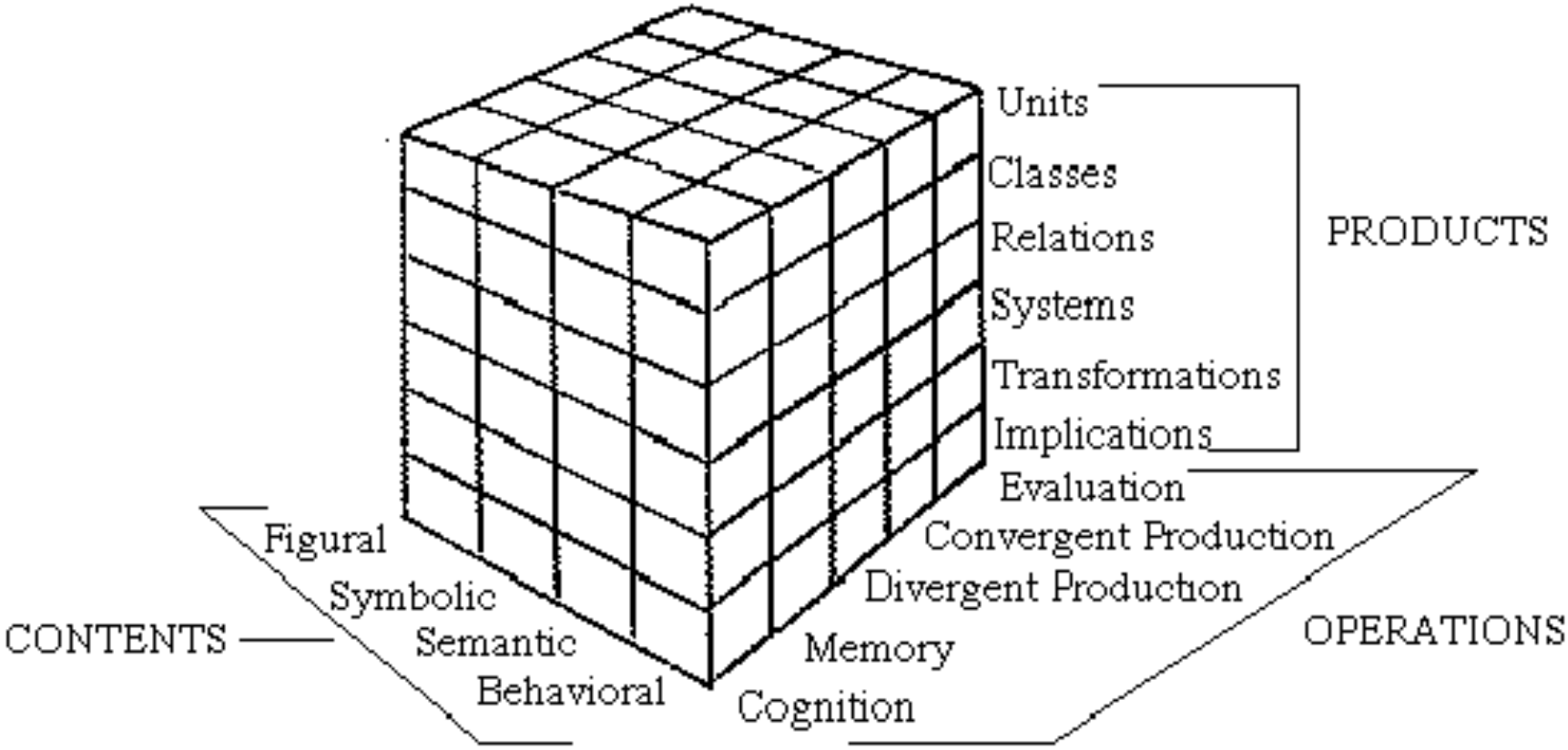
- Much in our profession that can be established effectively with top-down approaches
- But there is much room for encouraging the application of this knowledge in constructivist ways
- Students must learn to think in and about sound in ways that end in independent thinking
- For those learning goals 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

Importance of Creative Thinking in Music

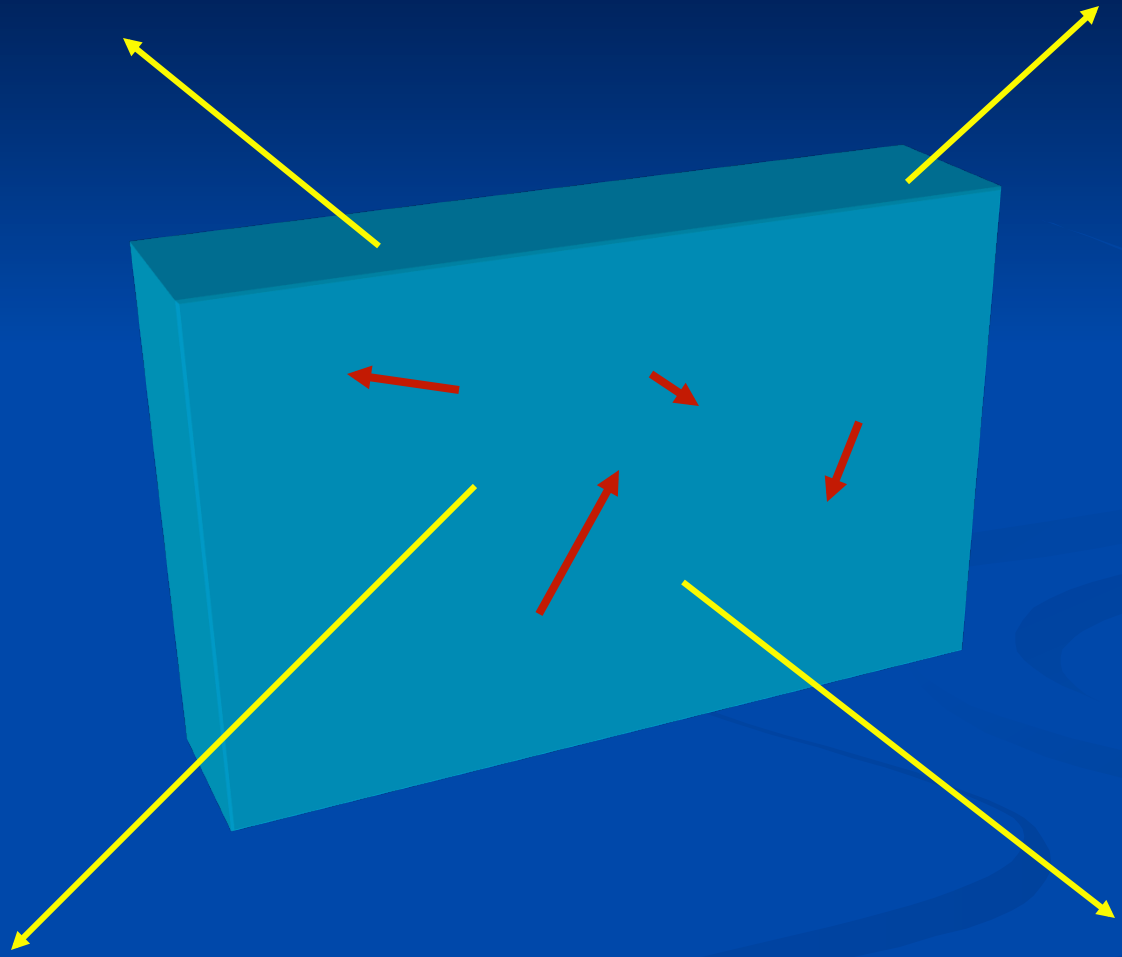
Problems with Traditional IQ Testing



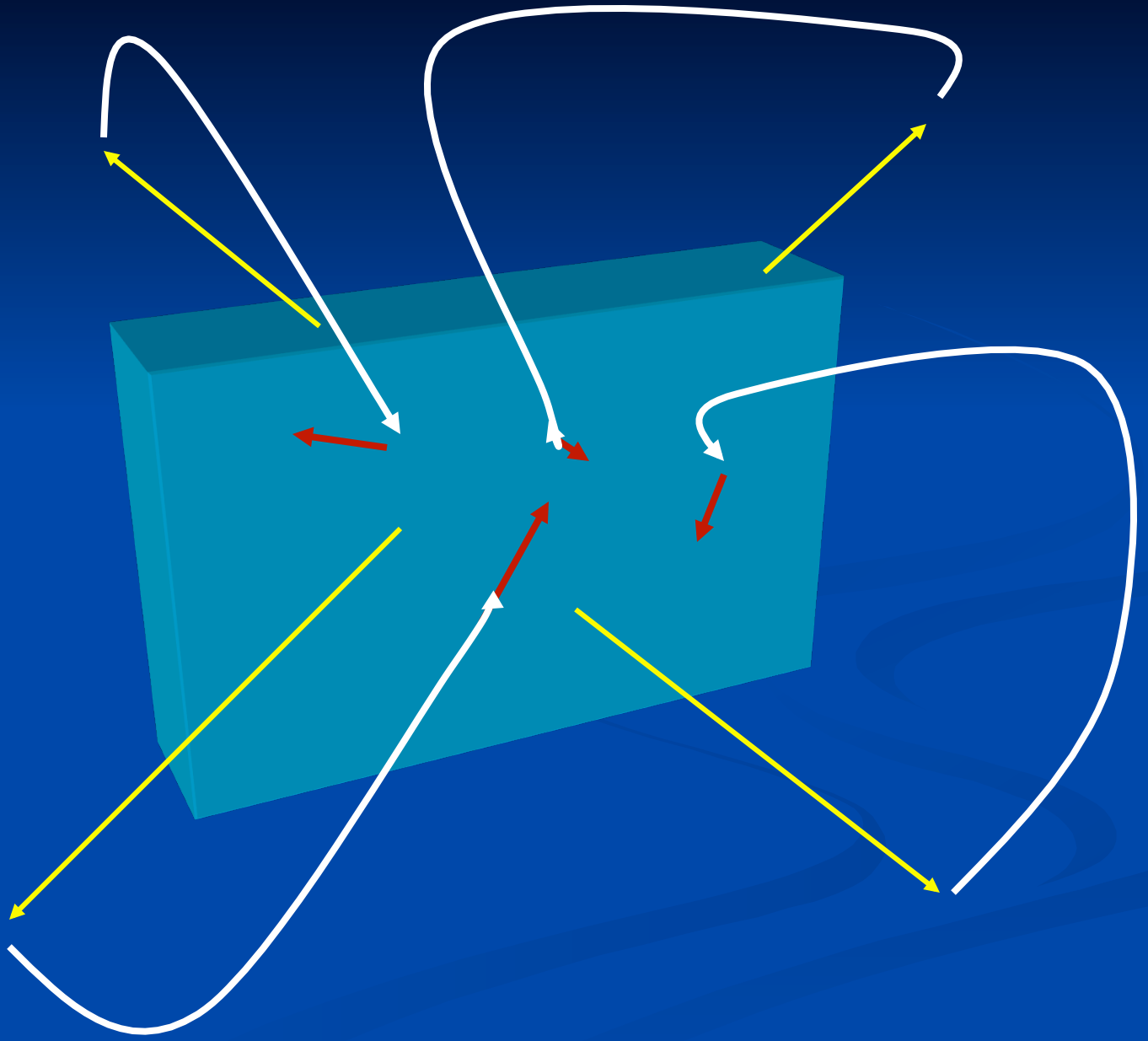
Guilford's Structure of Intellect Model

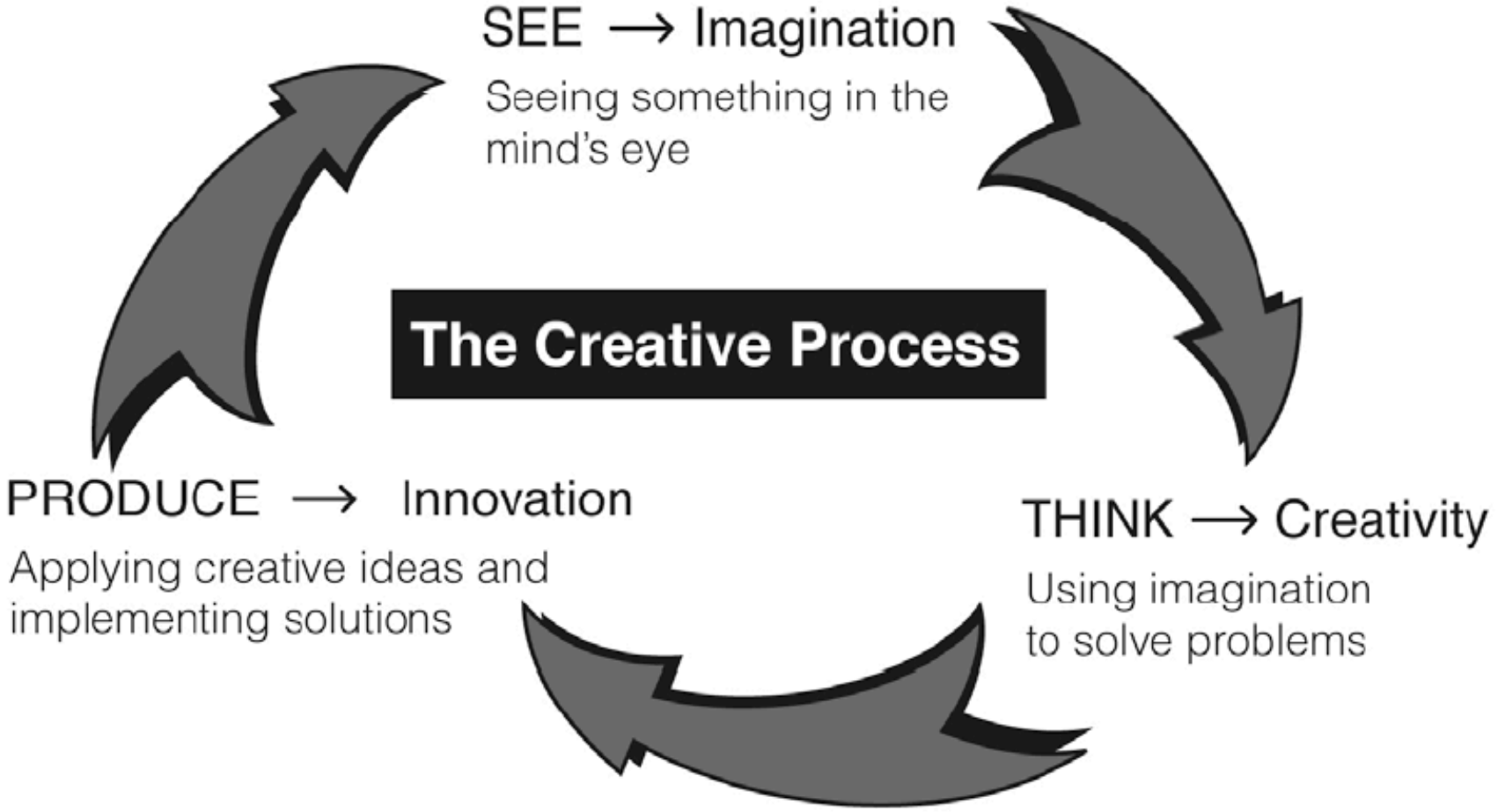


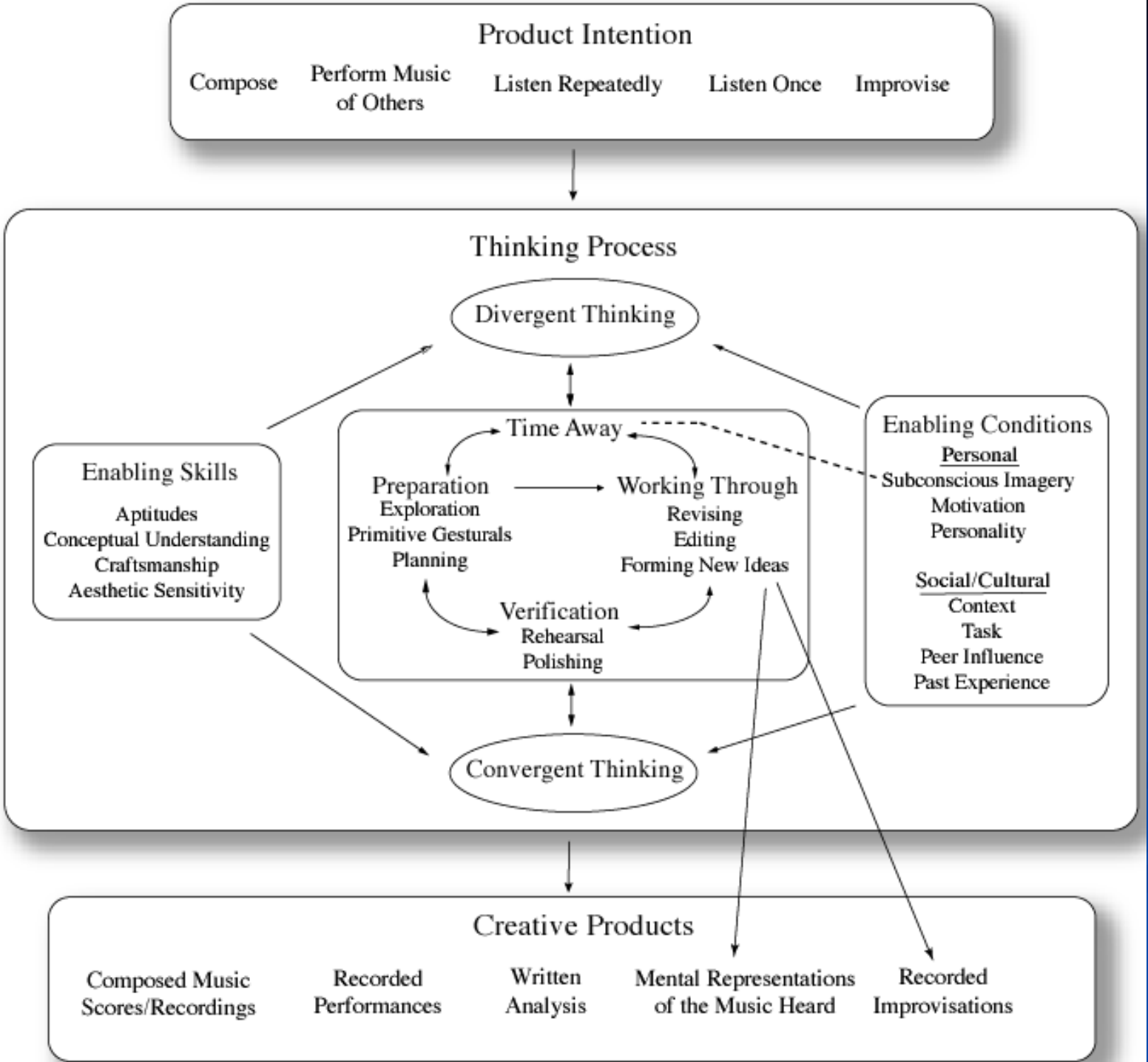
DIVERGENT THINKING



CONVERGENT THINKING




SEE ⟶ Imagination
Seeing something in the mind's eye
The Creative Process
THINK ⟶ Creativity
Using imagination to solve problems
PRODUCE ⟶ Innovation
Applying creative ideas and implementing solutions


Product Intention
Compose
Perform Music of Others
Listen Repeatedly
Listen Once
Improvise
Thinking Process
Divergent Thinking
Time Away
Preparation
Exploration
Primitive Gesturals
Planning
Working Through
Revising
Editing
Forming New Ideas
Verification
Rehearsal
Polishing
Enabling Skills
Aptitudes
Conceptual Understanding
Craftsmanship
Aesthetic Sensitivity
Enabling Conditions
Personal
Subconscious Imagery
Motivation
Personality
Social/Cultural
Context
Task
Peer Influence
Past Experience
Convergent Thinking
Creative Products
Composed Music Scores/Recordings
Recorded Performances
Written Analysis
Mental Representations of the Music Heard
Recorded Improvisations

II. Toward an Approach to Assessment

- Problem-solving context
- Convergent and divergent thinking
- Stages involved
- Some aspect of novelty
- Product that is evaluated by society

Imagination and Creative Thinking and Its Relation to Intelligence

- Research Data Clearly shows a connection but not a completely linear one. (r=.50-.60)
- Reimer's Philosophical View on Creativity and Intelligence is very useful

Intelligence consists of the ability to make increasingly acute discriminations, as related to increasingly wide connections, in contexts provided by culturally devised role expectations.

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What is imaginative thought in music

Imaginative thought in music 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 is NOT for just the "Gifted" Child

- Not for just children with high convergent-based IQ
- Not for just children who show signs of talent in "creative" fields
- Creative Thinking is possible for all children and should be encouraged at all levels" It's a way of teaching for all subjects, including the arts.

One approach to assessment: Measure of Creative Thinking in Music (MCTM)

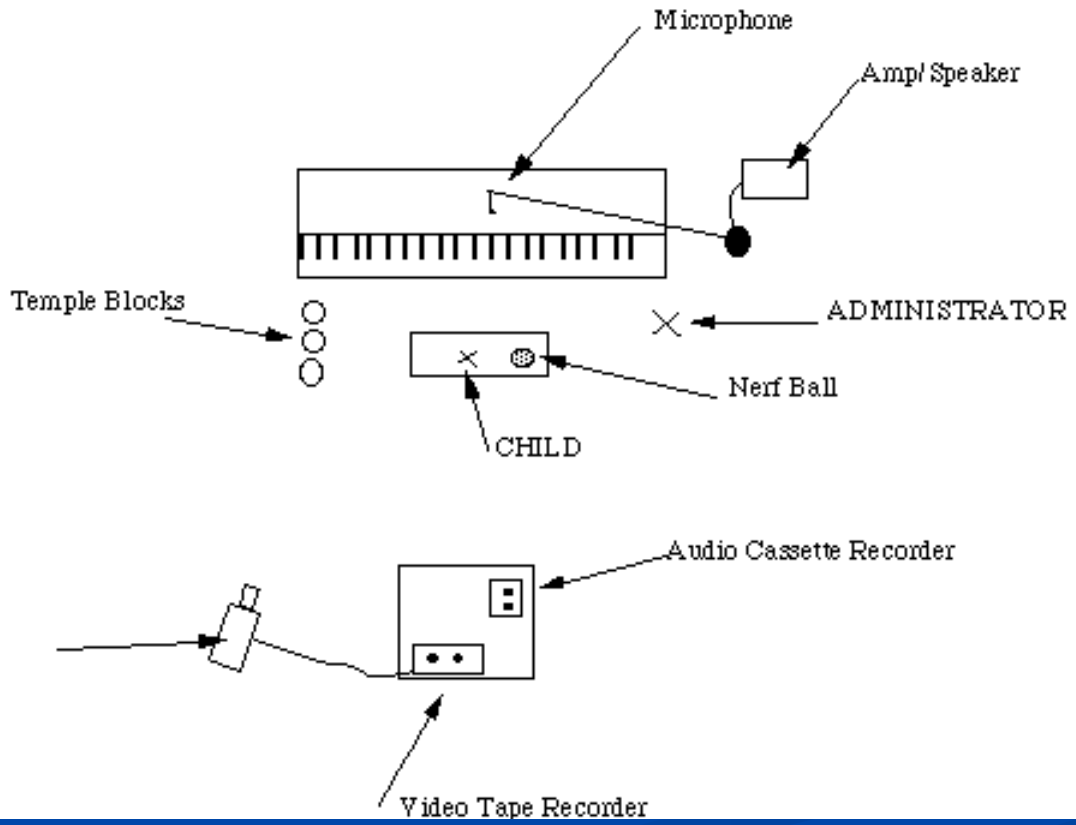
- Creative thinking in, with, and about sound as part of music aptitude
- Inner hearing of sound
- Convergent and divergent thinking
- Quasi-improvisatory tasks
- Informal instruments that were capable of high/low, fast/slow and loud/soft; and had contrasting timbres

- Tasks that very most enjoyable for the kids (not a testing environment, as natural as possible)
- Video tape record
- Scored in both objective and subjective ways
- Scored for the four factors of music extensiveness, flexibility, originality, and syntax (some of these from general creativity literature—work of Torrance and Guilford)

Scoring Factors—MCTM

- Musical Extensiveness -- the amount of clock time involved in the creative tasks
- Musical Flexibility -- the extent to which the musical parameters of "high"/"low" (pitch); "fast"/"slow" (tempo) and "loud"/"soft" (dynamics) are manipulated
- Musical Originality -- the extent to which the response is unusual or unique in musical terms and in the manner of performance
- Musical Syntax -- the extent to which the response is inherently logical and makes "musical sense"

Setup for Measure of Creative Thinking in Music (MCTM)



SUMMARY SCORING SHEET

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	_____	_____	____	____
Raw Totals	_____	_____	_____	_____
Standard Score	_____	_____	_____	_____

Standard Score Average _____

III. The Technology Piece

Why Teach Music with Technology?

- Links my belief in the importance of thinking in sound with

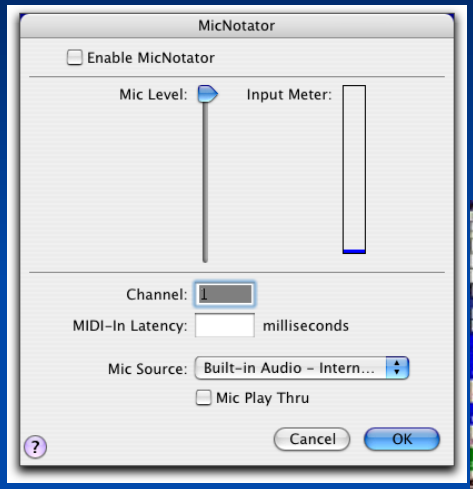
Why Teach Music with Technology?

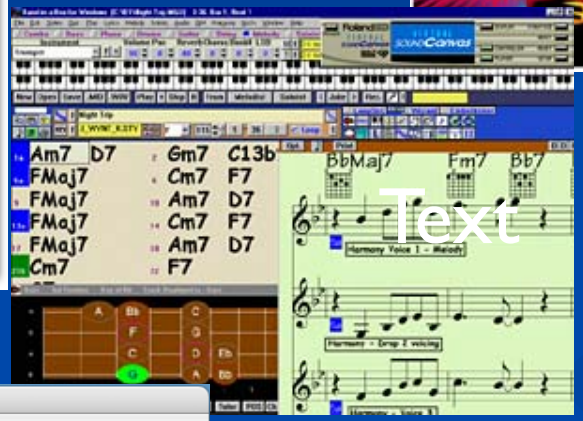
- Links my belief in the importance of thinking in sound with …
- My belief in the value of creative thinking in the context of …

Why Teach Music with Technology?

- Links my belief in the importance of thinking in sound with …
- My belief in the value of creative thinking in the context of …
- The way our youth encounter their world today

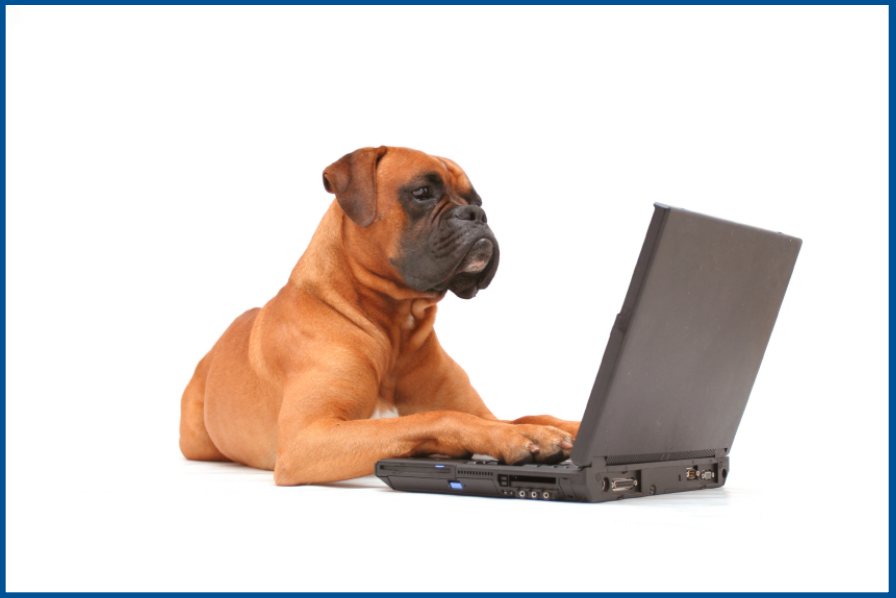
Technology Trends





Portability

Portable & Personal



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8-8
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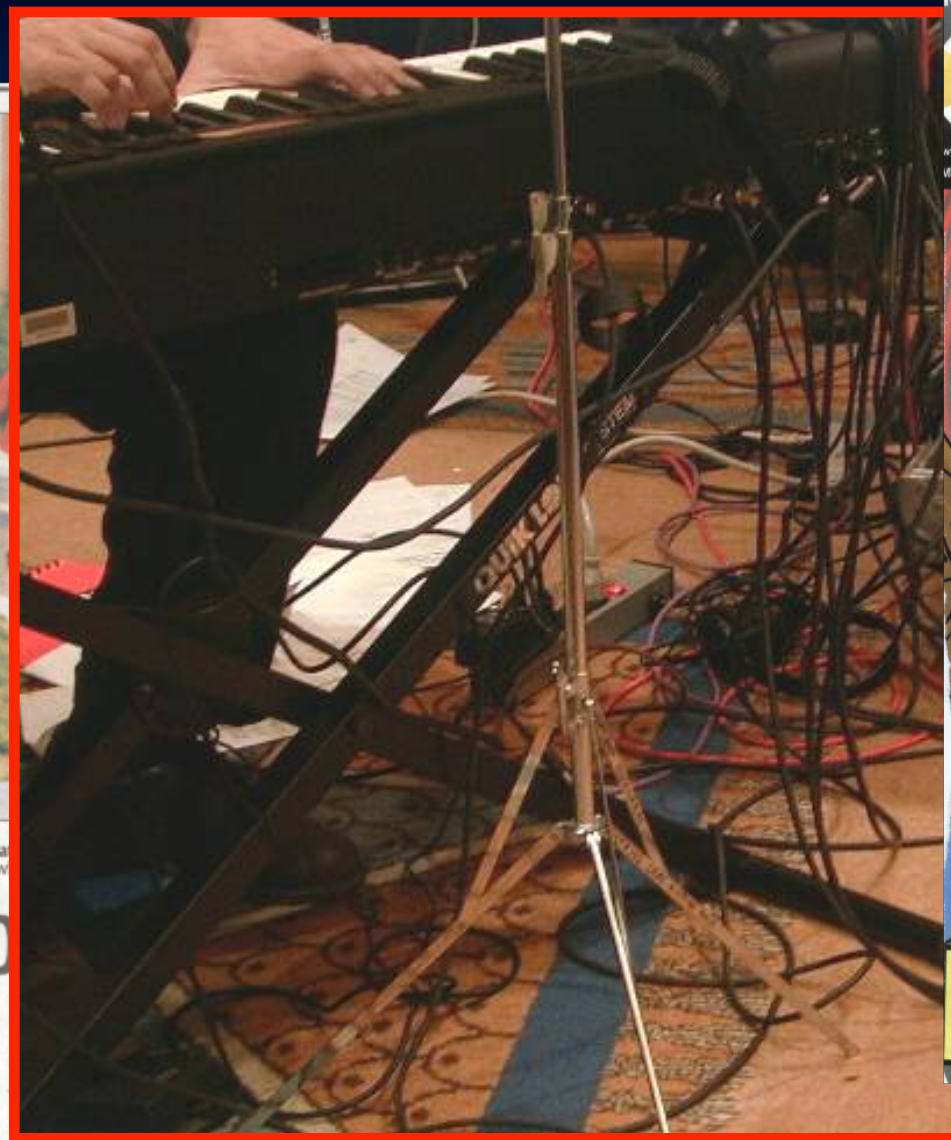
MENU

Desktop to Laptop



study, without technology

Cover story

Powerbook G4, which — along with his iPod and cellphone — is always close at hand.

Hunter, of Uniondale, Ind., is a typical tech-savvy college student. He can access the social networking site Facebook from his cellphone. He uses e-mail and instant messaging anywhere on the wireless campus. He downloads music to his laptop and his iPod, and he uses a 1-gigabyte flash drive provided by the university to transfer files and songs and to access his digital portfolio.

even think of when I use it and when I don't. It's such a part of life," he says.

Hunter isn't a techno-geek. He's just a "digital native" — a term that has been used to describe millennials, the first generation who grew up in a world filled with computers, cellphones and cable TV.

These young people think, act and react much differently from how their parents and

Please see COVER STORY next page ▸

Wireless

Overcoming Limits of Time and Space

- Commodity Internet and Internet2
- Video conferencing to tele-immersion
- Virtual performance in real time

Social DIRECTIONS

1. Gen-Y behaviors
2. Ubiquitous access to electronic information

Technology is that which wasn't around when you were born. Alan Kay, Futurist

USA Today, 8/17/06, pg 6D. From Joe Rizzo, Hiller Architecture study

Gen Y Behaviors

- Want their own rooms/own space (personalization)
- Live a 24/7 lifestyle and want privacy
- Have iPods, laptops, cellphones, PDAs etc.
- Expect services instantly
- Multi-task and expect flexibility

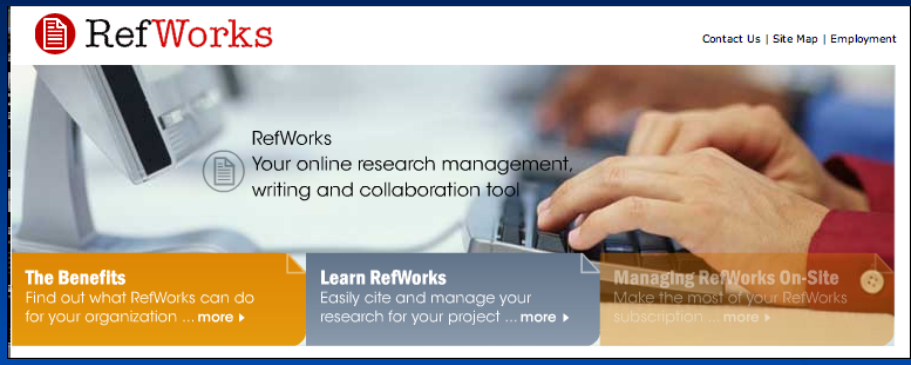
born 1982-2003

Gen Y Behaviors

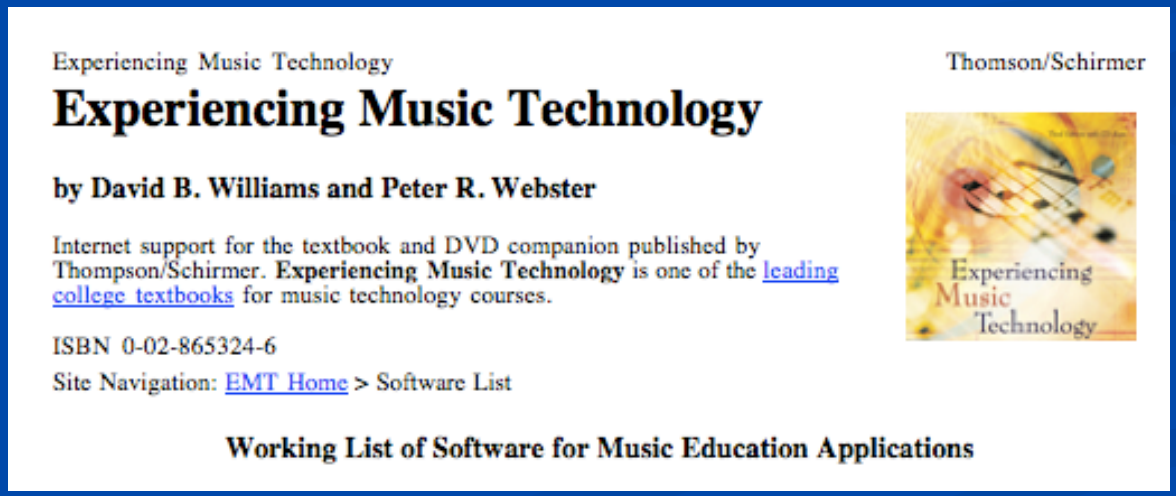
- Want their own rooms/own space (personalization)
- Live a 24/7 lifestyle and want privacy
- Have iPods, laptops, cellphones, PDAs etc.
- Expect services instantly
- Multi-task and expect flexibility
- Prefer to avoid reading if at all possible
- Want comfort, food & drink when computing
- Judge you by your website (within 3 secs)

e-Information

- Search Engines
  - ✓ Google
  - ✓ Wikipedia (the good, the bad, and the ugly…)
  - ✓ Ask.com
- Materials in electronic form, not hard copy
- Online bibliography tools, journals, language translators



Approach to Understanding Software Categories



Experiencing Music Technology

Thomson/Schirmer

Experiencing Music Technology

by David B. Williams and Peter R. Webster

Internet support for the textbook and DVD companion published by Thompson/Schirmer. **Experiencing Music Technology** is one of the leading college textbooks for music technology courses.

ISBN 0-02-865324-6

Site Navigation: EMT Home > Software List

Working List of Software for Music Education Applications

Music Production

- Digital Audio Management and Editing
- Multitrack: Digital Audio
- Multitrack: Looping
- MIDI/Digital Audio Sequencing
- Virtual Synths, Samplers, and Instruments
- Notation and Scanning

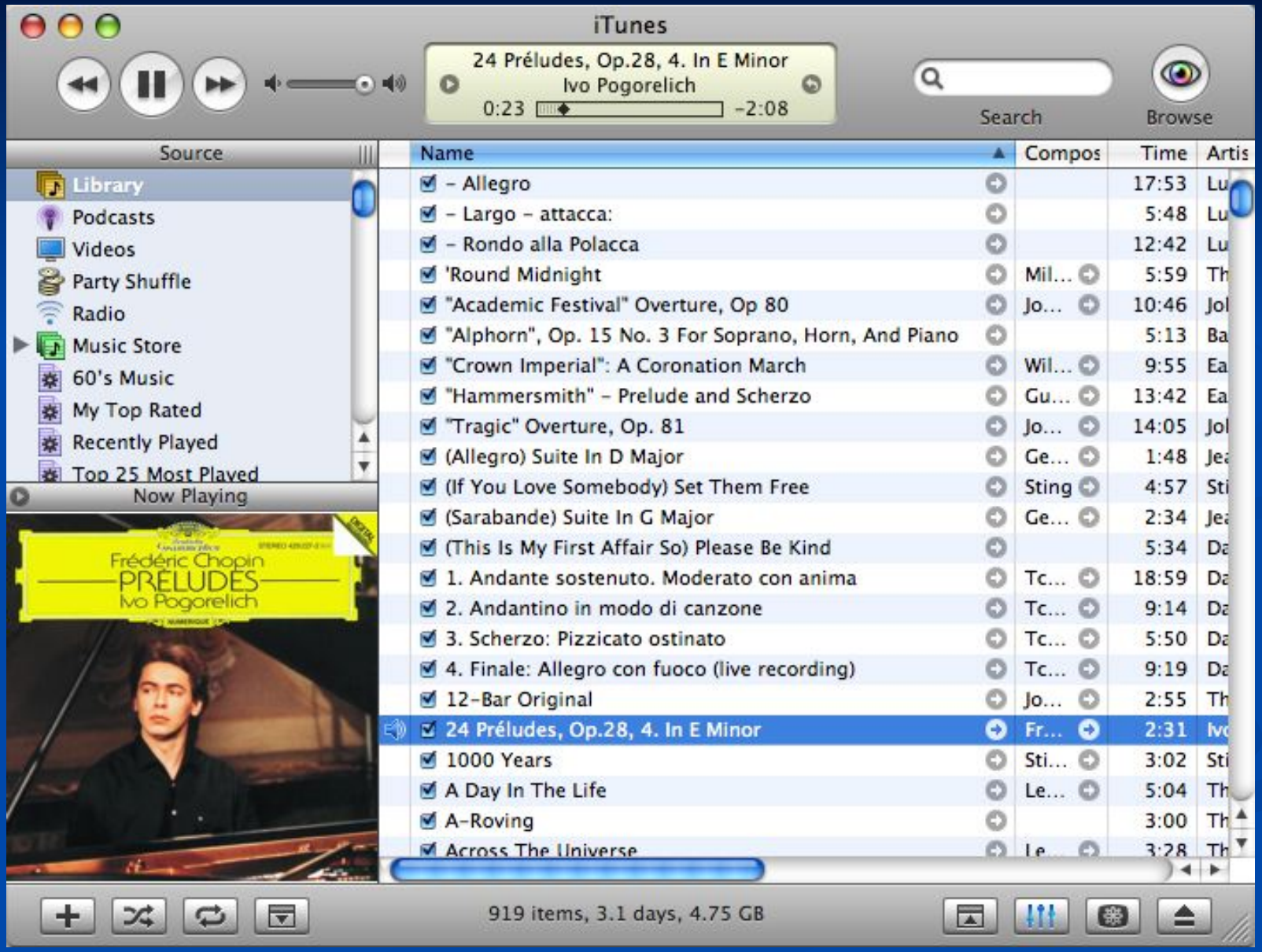
- Multimedia Production

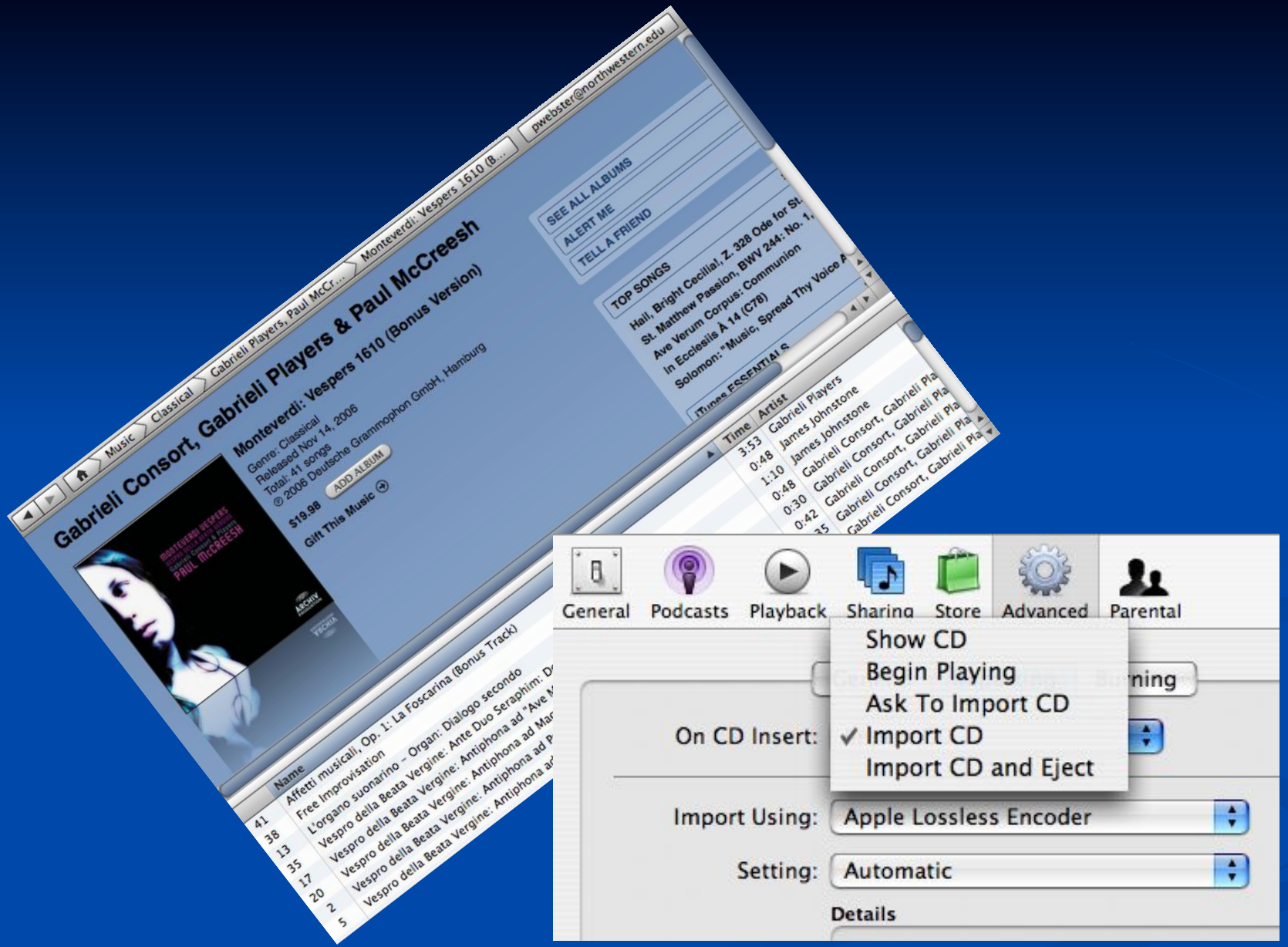
Computer-Aided Instruction

- Drill and Practice
- Flexible Practice
- Guided Instruction
- Game-Based
- Creative
- Teacher Resource
- Internet

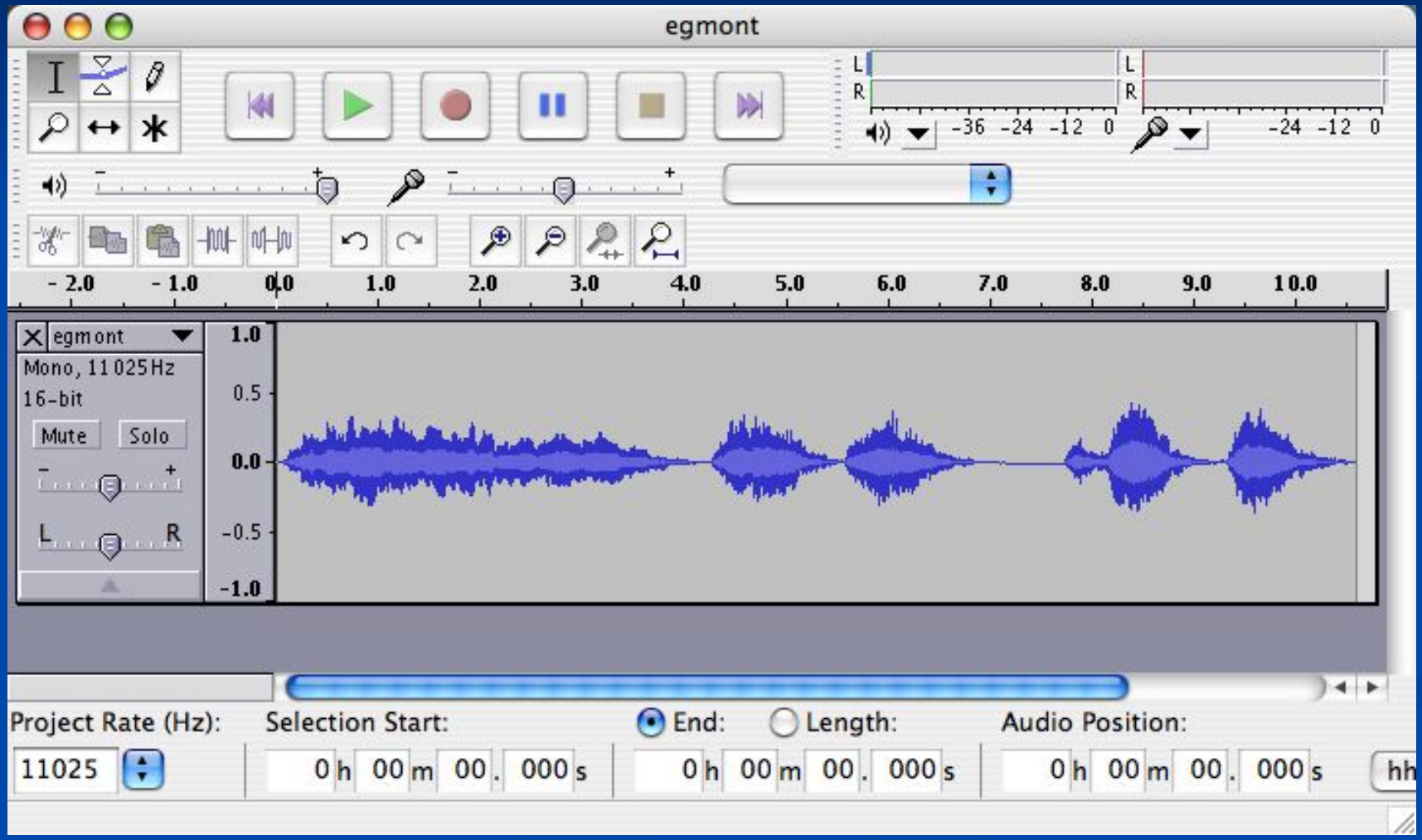
Digital Audio Management and Editing

iTunes (Mac/PC)

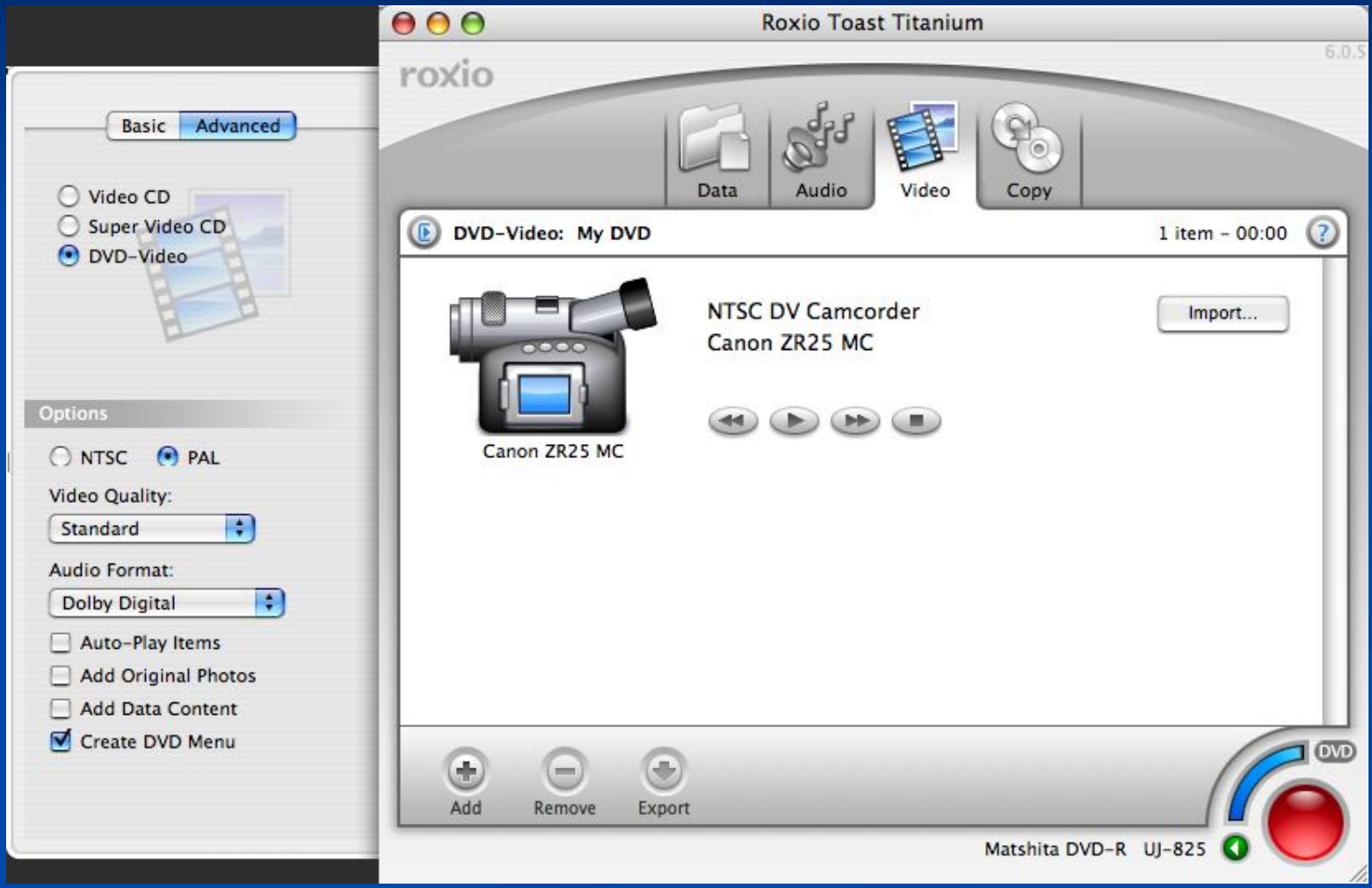



Music
Classical
Gabrieli Players, Paul McCr...
Monteverdi: Vespers 1610 (B...
pwebster@northwestern.edu
Gabrieli Consort, Gabrieli Players & Paul McCreesh
Monteverdi: Vespers 1610 (Bonus Version)
Genre: Classical
Released Nov 14, 2006
Total: 41 songs
℗ 2006 Deutsche Grammophon GmbH, Hamburg
$19.98
ADD ALBUM
Gift This Music
SEE ALL ALBUMS
ALERT ME
TELL A FRIEND
TOP SONGS
Hail, Bright Cecilia!, Z. 328 Ode for St.
St. Matthew Passion, BWV 244: No. 1
Ave Verum Corpus: Communion
In Ecclesiis À 14 (C78)
Solomon: "Music, Spread Thy Voice
Time
Artist
3:53 Gabrieli Players
0:48 James Johnstone
1:10 James Johnstone
0:48 Gabrieli Consort, Gabrieli Pla
0:30 Gabrieli Consort, Gabrieli Pla
0:42 Gabrieli Consort, Gabrieli Pla
Gabrieli Consort, Gabrieli Pla
Name
41 Affetti musicali, Op. 1: La Foscarina (Bonus Track)
38 Free Improvisation
13 L'organo suonarino – Organ: Dialogo secondo
35 Vespro della Beata Vergine: Ante Duo Seraphim:
17 Vespro della Beata Vergine: Antiphona ad "Ave
20 Vespro della Beata Vergine: Antiphona ad
2 Vespro della Beata Vergine: Antiphona ad
5 Vespro della Beata Vergine: Antiphona
General
Podcasts
Playback
Sharing
Store
Advanced
Parental
Show CD
Begin Playing
Ask To Import CD
Import CD
Import CD and Eject
On CD Insert:
Import Using:
Apple Lossless Encoder
Setting:
Automatic
Details

Audacity (Mac/PC)

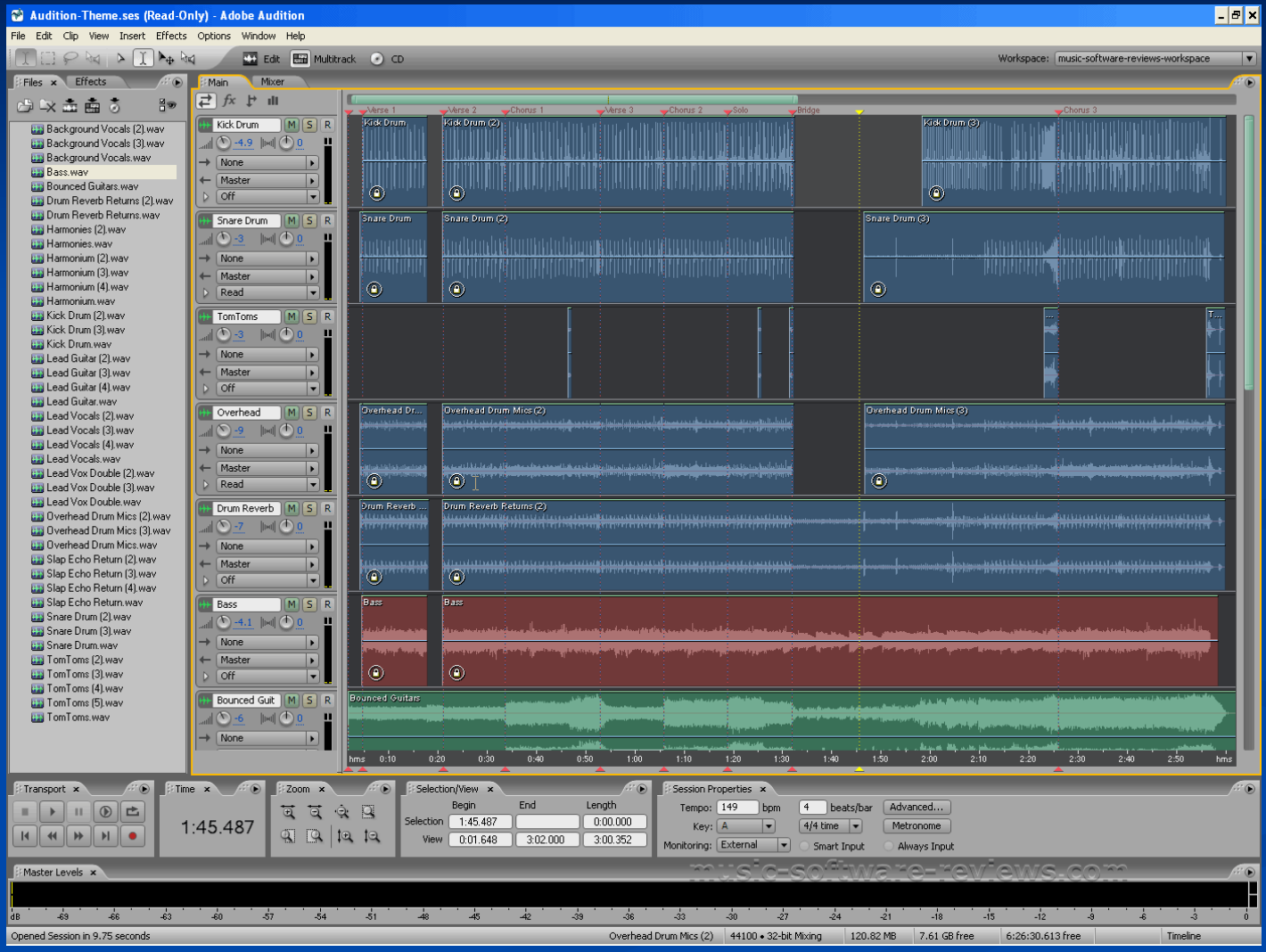


Toast Titanium (Mac)



Multitrack and Looping

Audition (PC)


Audition-Theme.ses (Read-Only) - Adobe Audition
File Edit Clip View Insert Effects Options Window Help
Edit Multitrack CD
Workspace: music-software-reviews-workspace
Files Effects
Main Mixer
Kick Drum
Snare Drum
TomToms
Overhead
Drum Reverb
Bass
Bounced Guit
Bounced Guitars
Transport
Time
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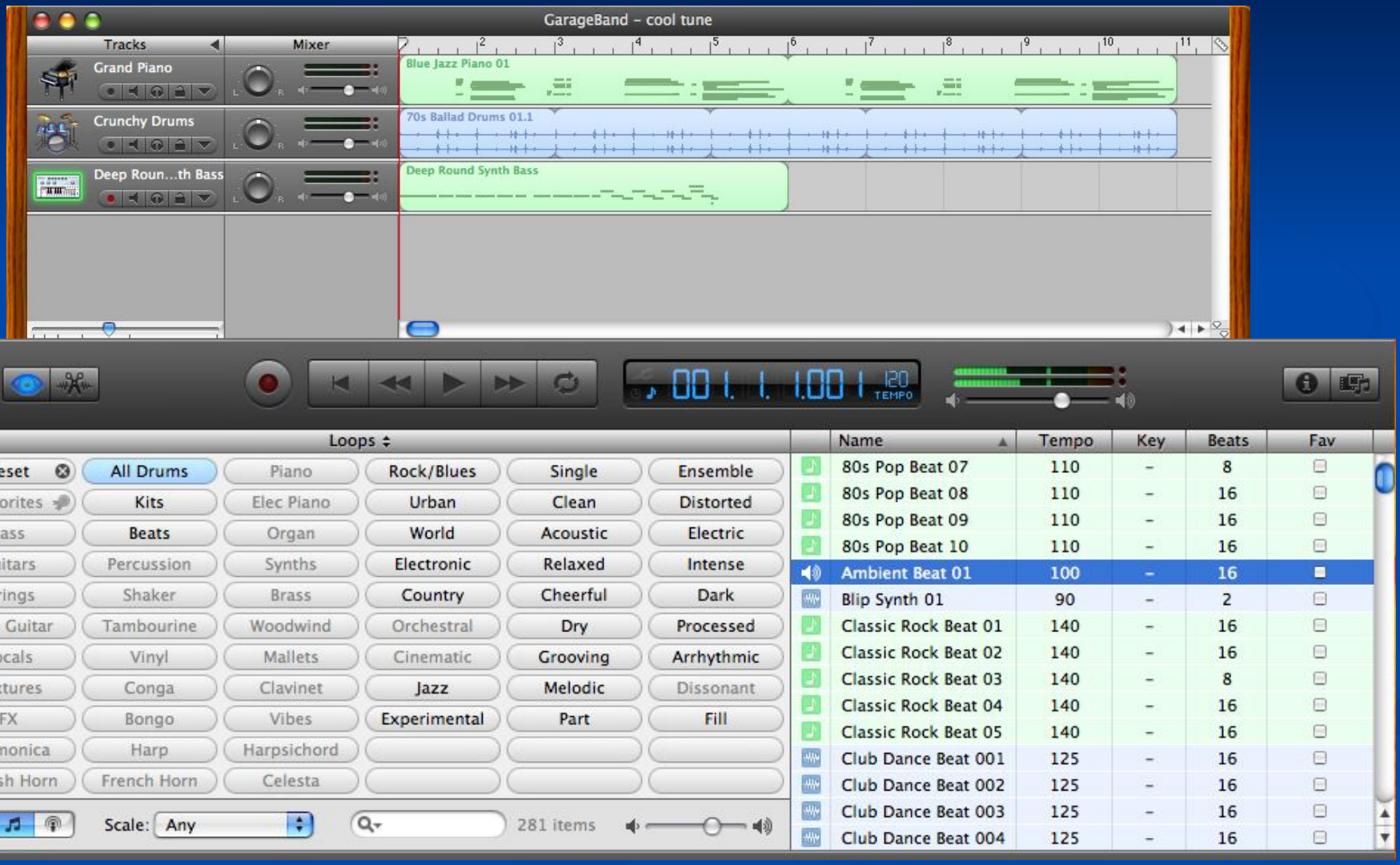
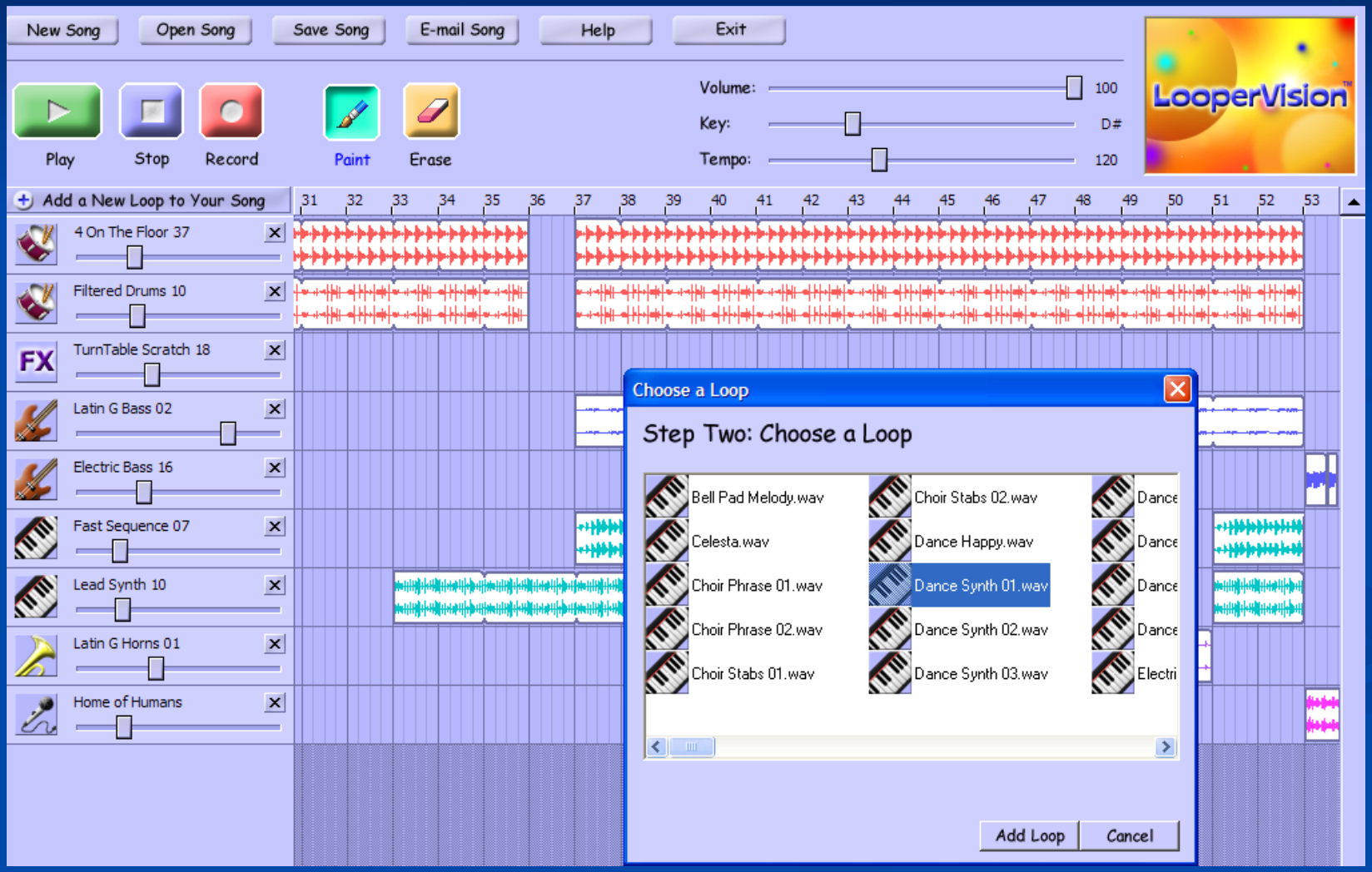
Zoom
Selection/View
Session Properties
Tempo: 149 bpm
Key: A
Monitoring: External
Master Levels
music-software-reviews.com
Opened Session in 9.75 seconds
44100 • 32-bit Mixing
120.82 MB
7.61 GB free
6:26:30.613 free
Timeline

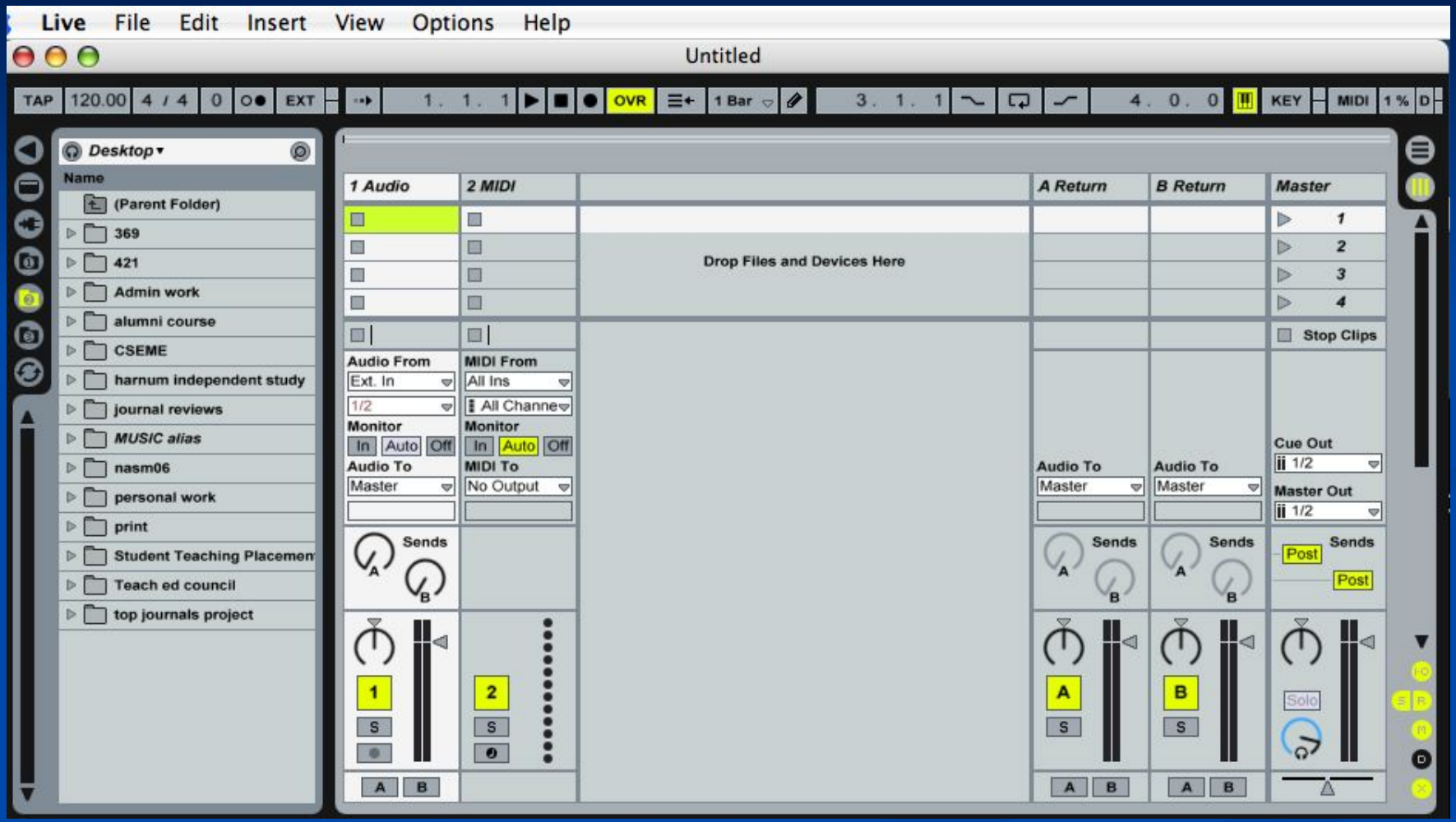
GarageBand (Mac)



Super Duper Music Looper (PC)



Live (Mac/PC)


Live File Edit Insert View Options Help
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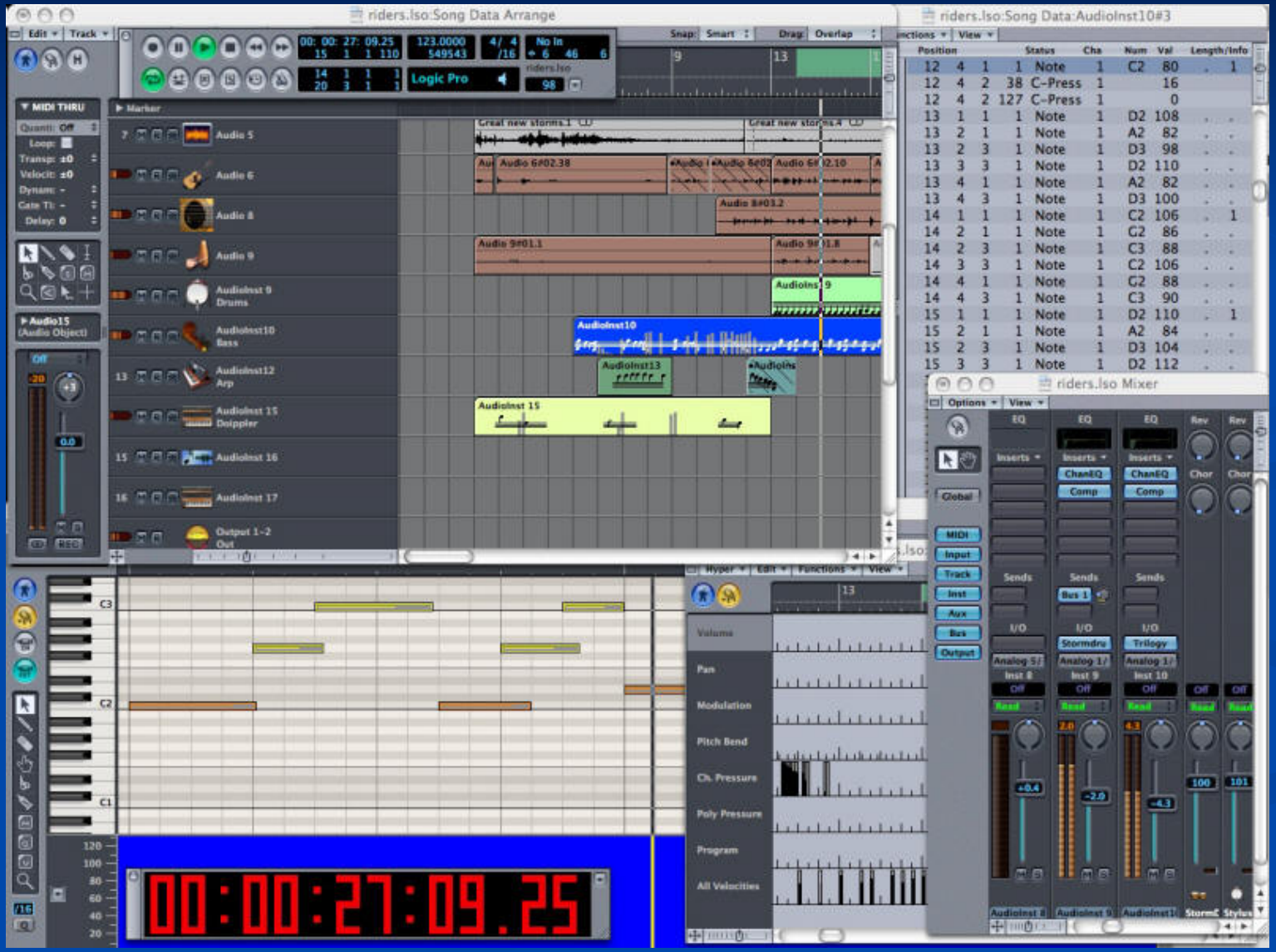
421
Admin work
alumni course
CSEME
harnum independent study
journal reviews
MUSIC alias
nasm06
personal work
print
Student Teaching Placemen
Teach ed council
top journals project
1 Audio
2 MIDI
A Return
B Return
Master
Drop Files and Devices Here
1
2
3
4
Stop Clips
Audio From
Ext. In
1/2
Monitor
In Auto Off
Audio To
Master
MIDI From
All Ins
All Channe
Monitor
In Auto Off
MIDI To
No Output
Sends
Cue Out
1/2
Master Out
1/2
Post
Solo
S
A
B

Logic Pro (Mac)

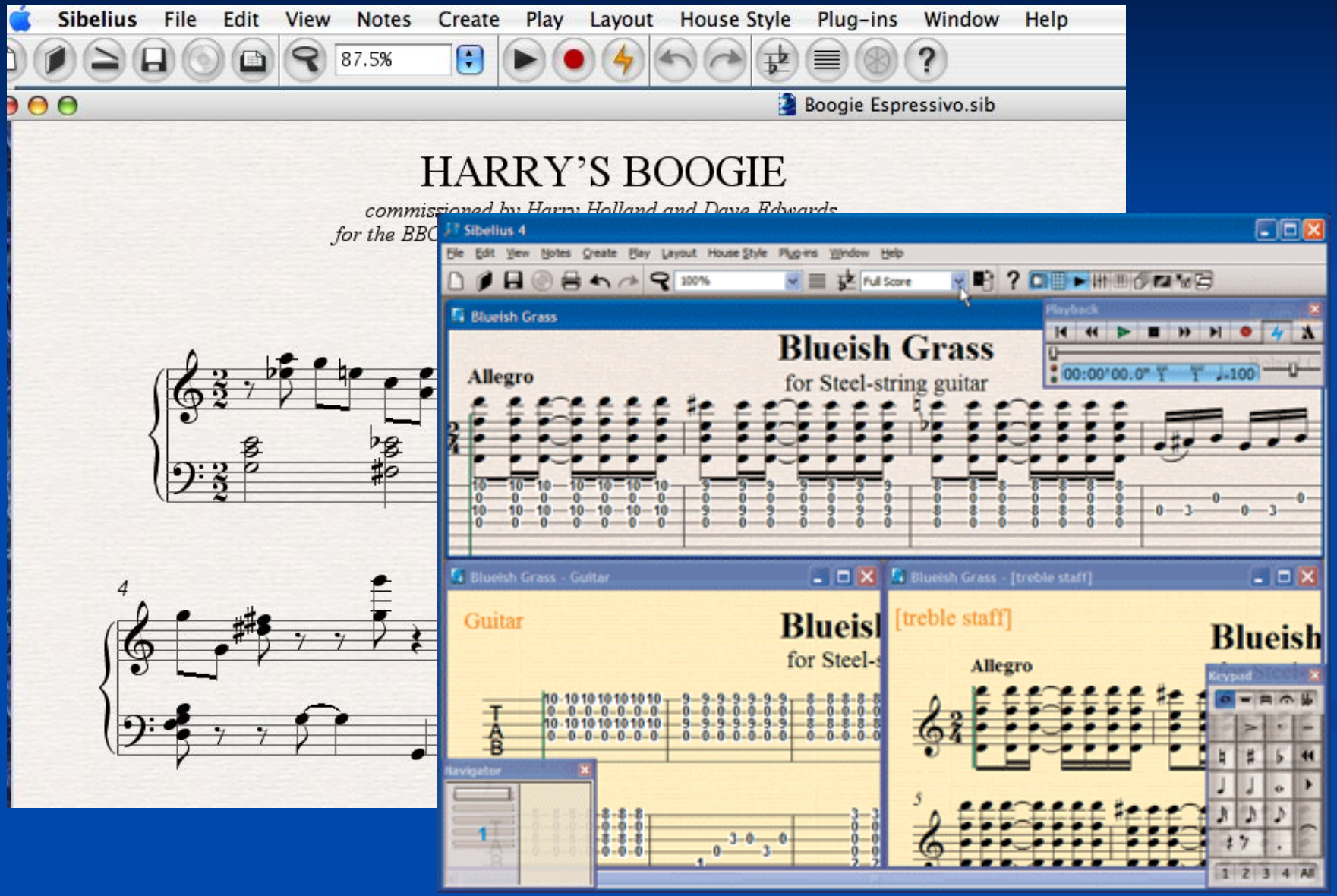


Virtual Studio

Reason (Mac/PC)

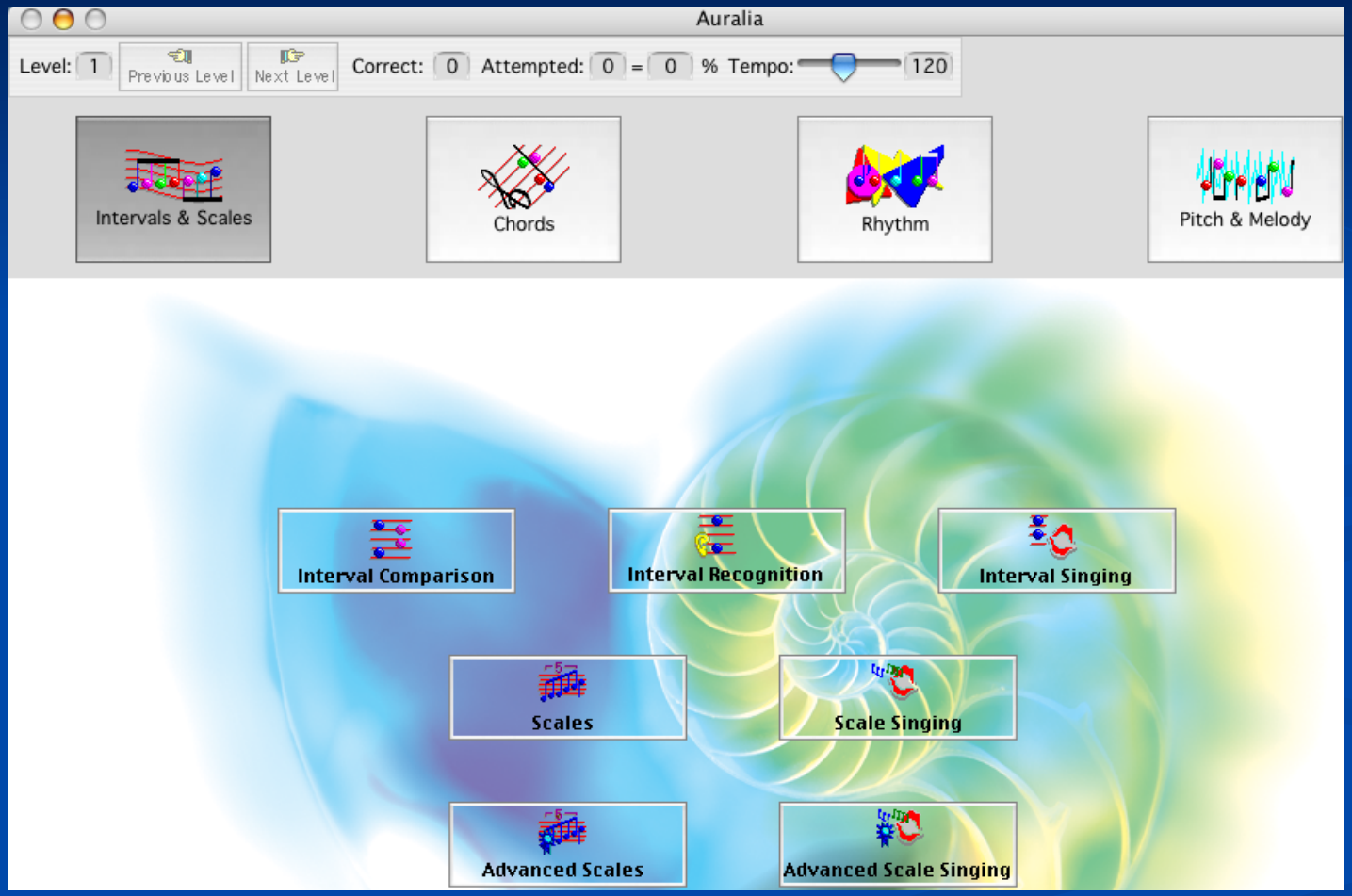
Notation

Sibelius (Mac/PC)

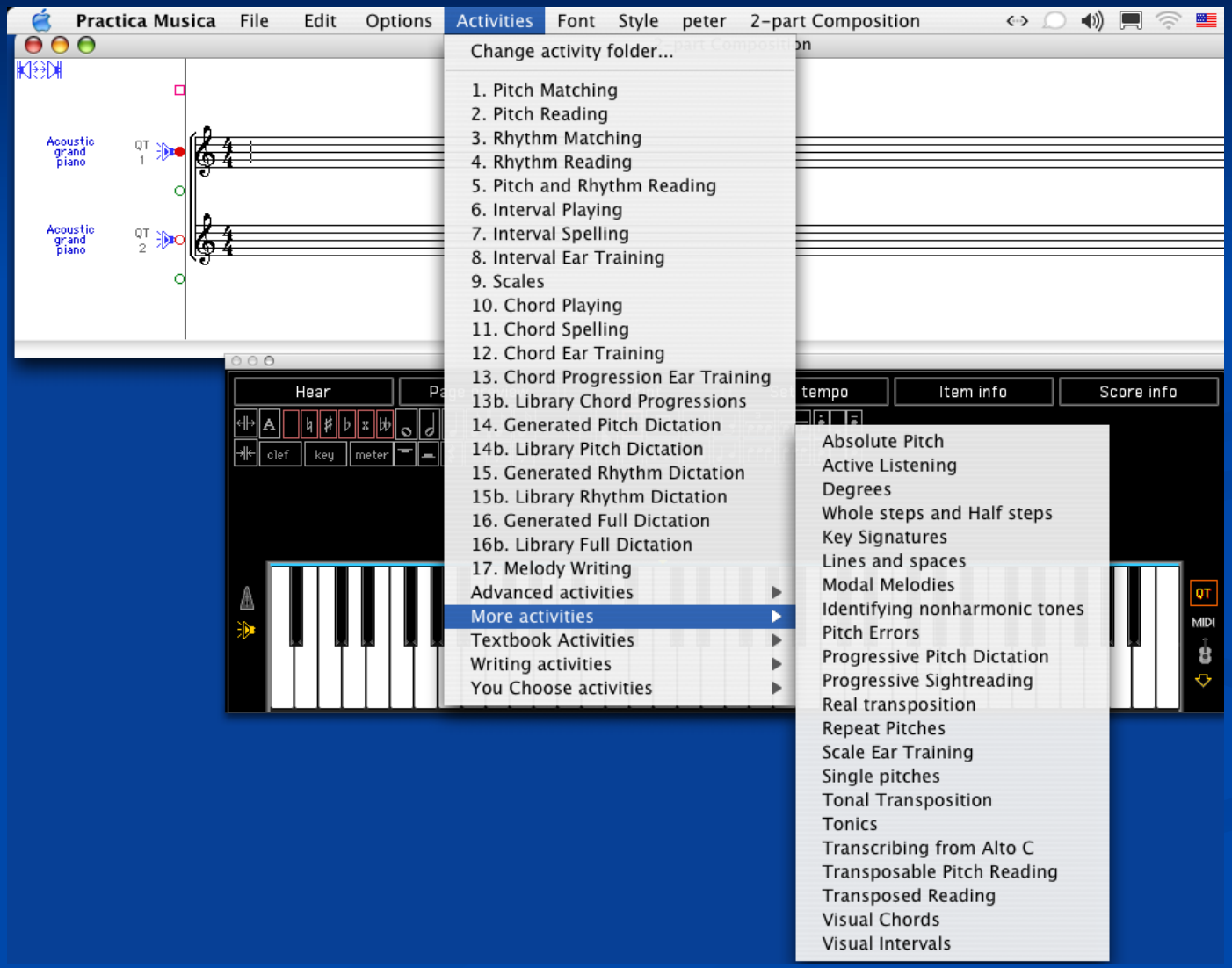


Computer-Aided Instruction (CAI)

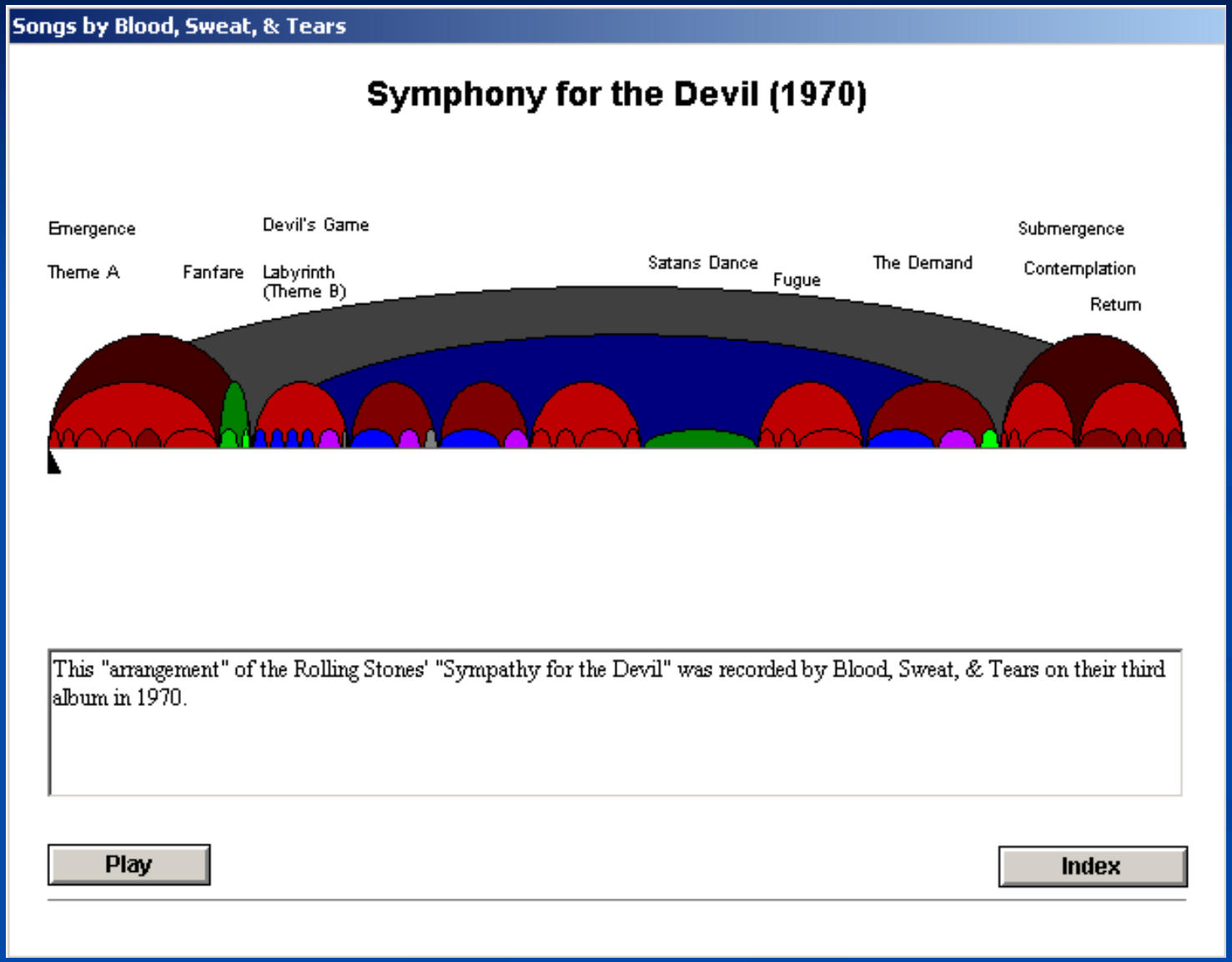
Auralia (Mac/PC)



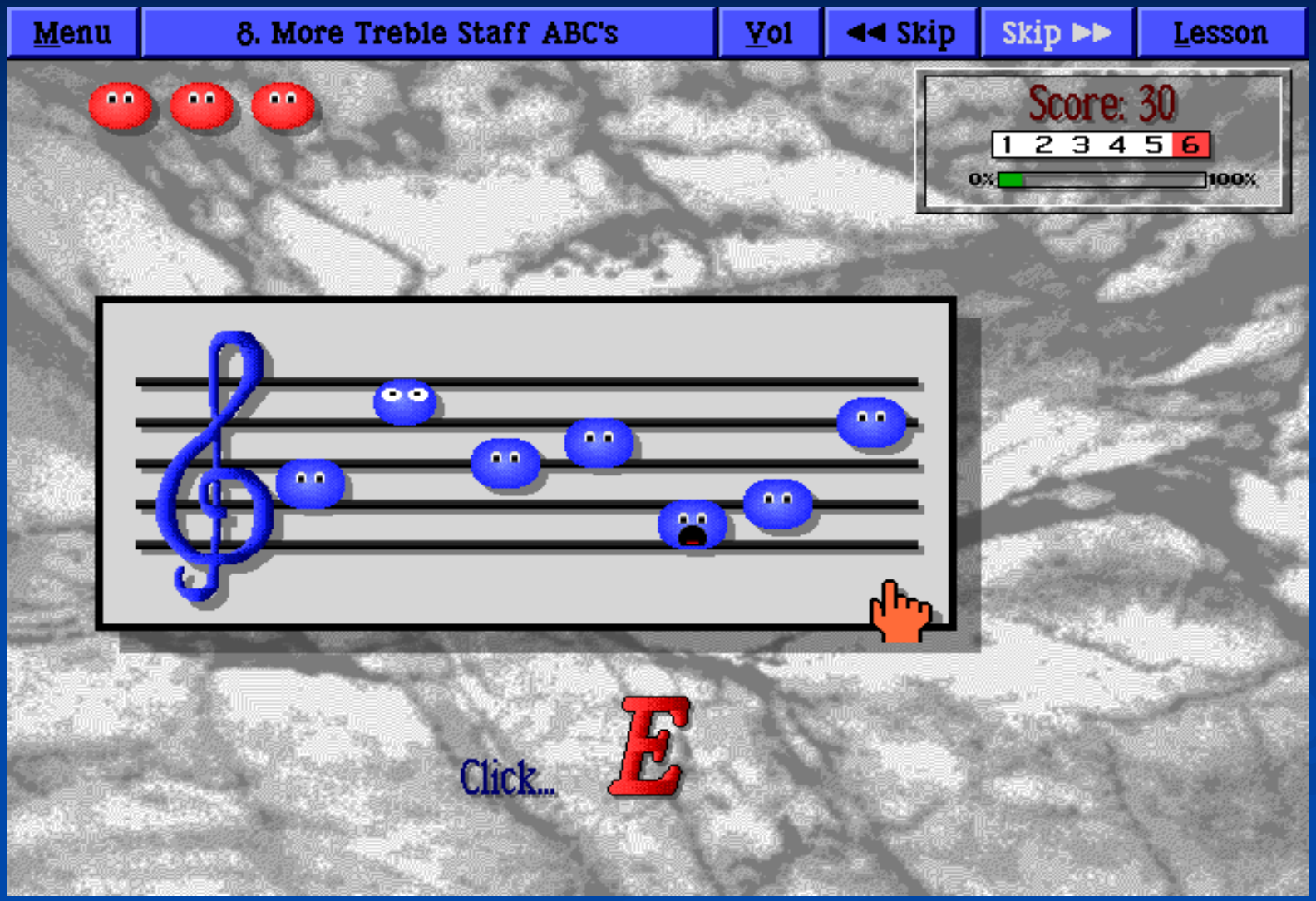
Practica Musica (Mac/PC)



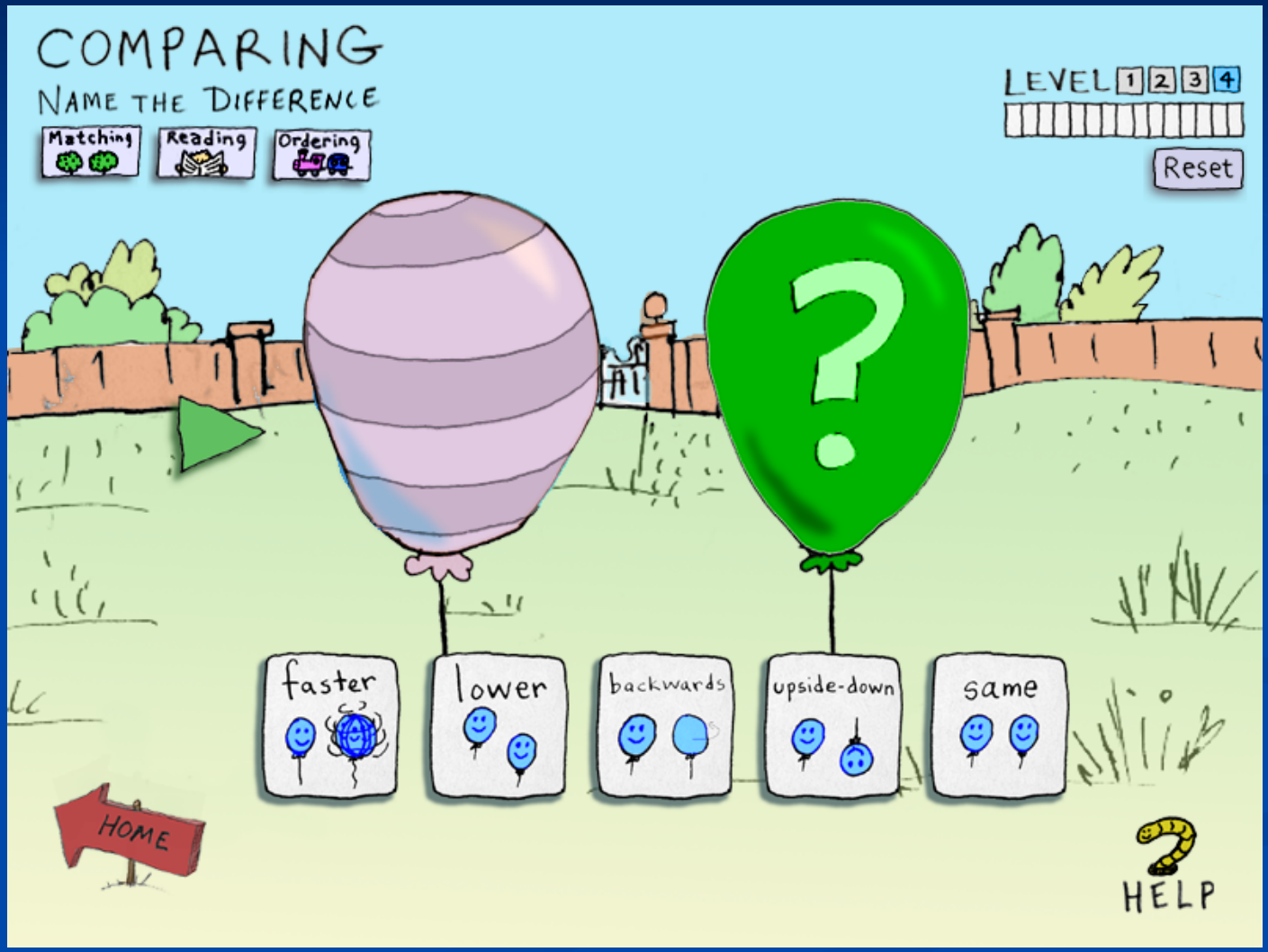
TimeSketch (Mac/PC)



Music Ace I and II (Mac/PC)

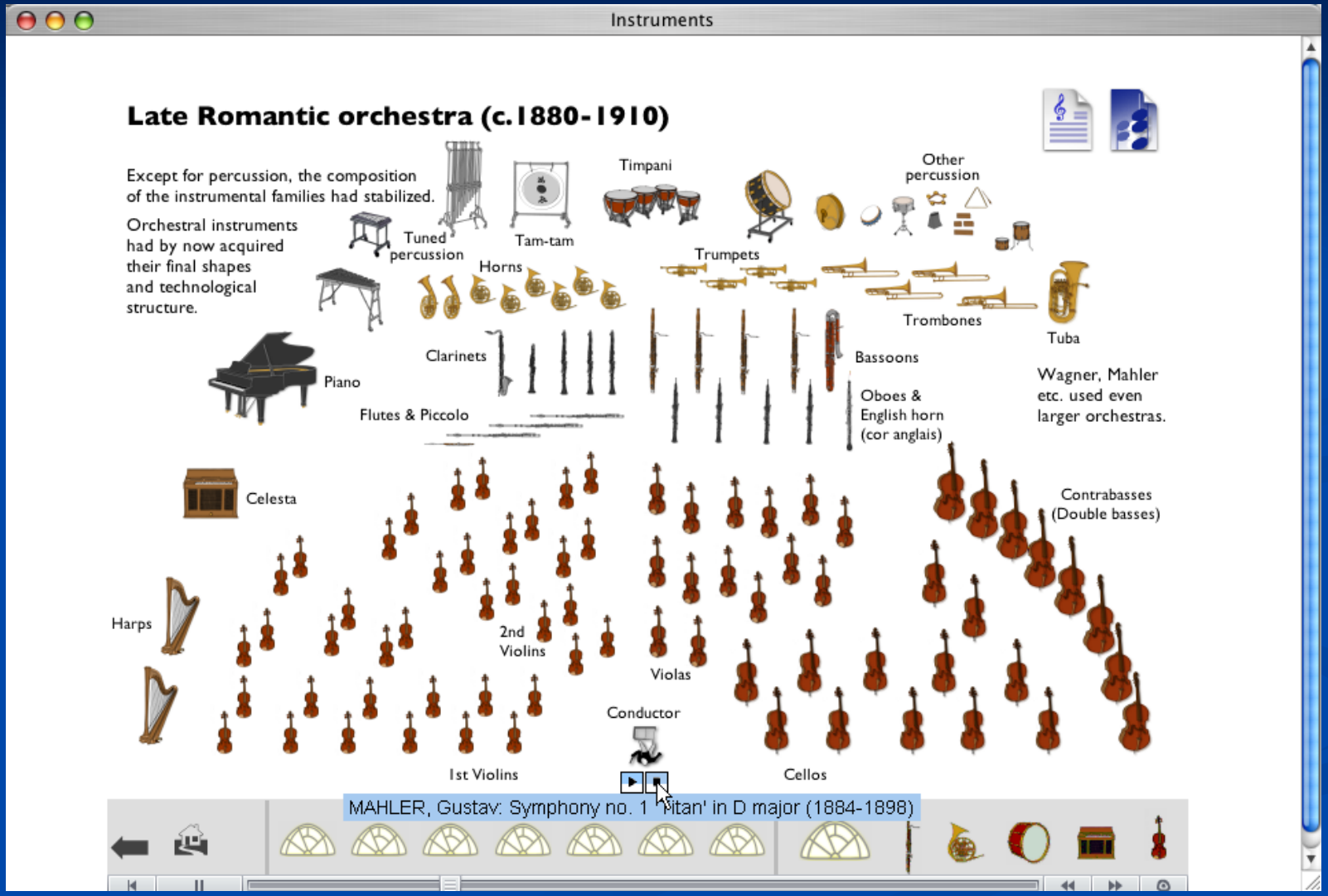


Hearing Music (Mac/PC)

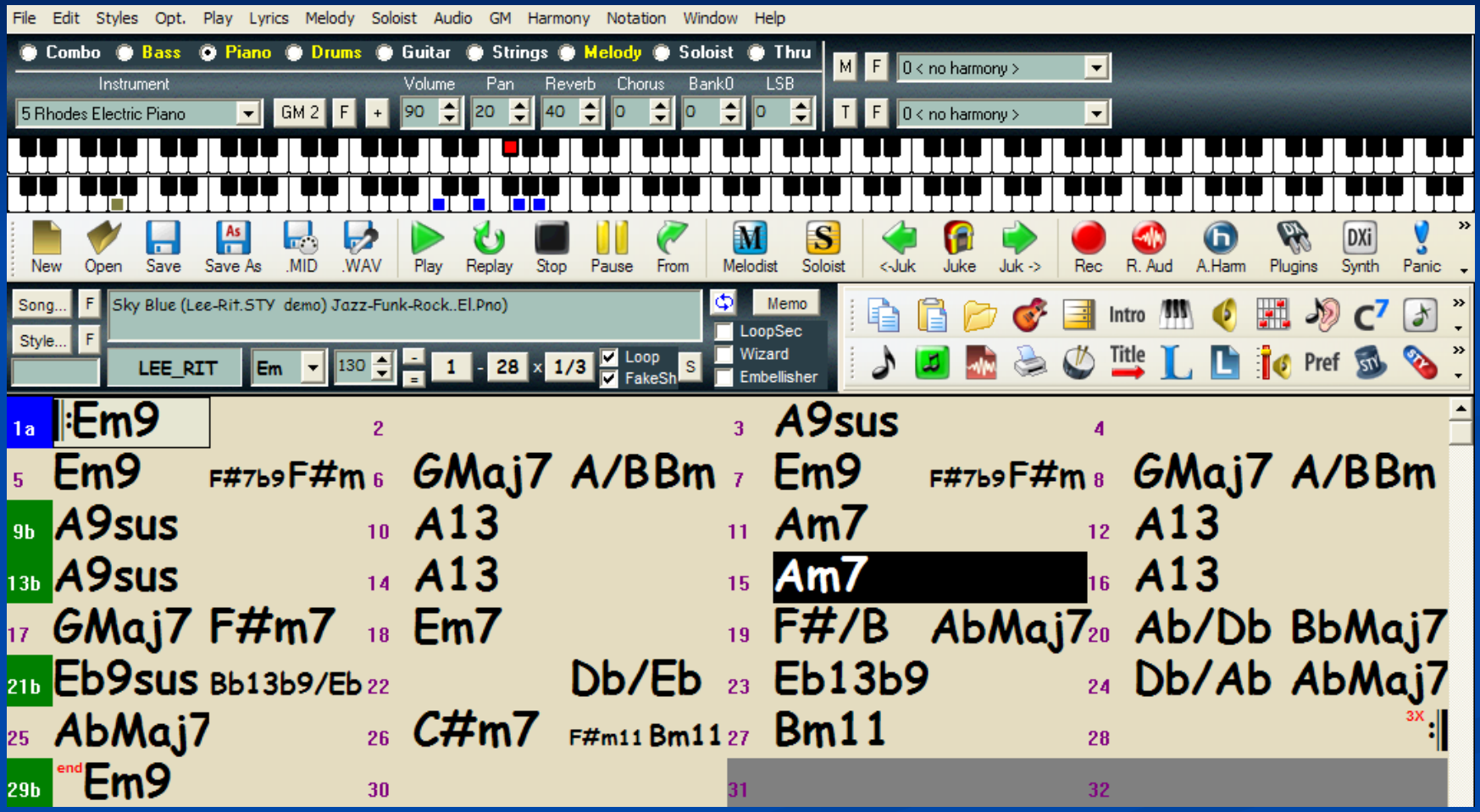


Smart Music (Mac/PC)

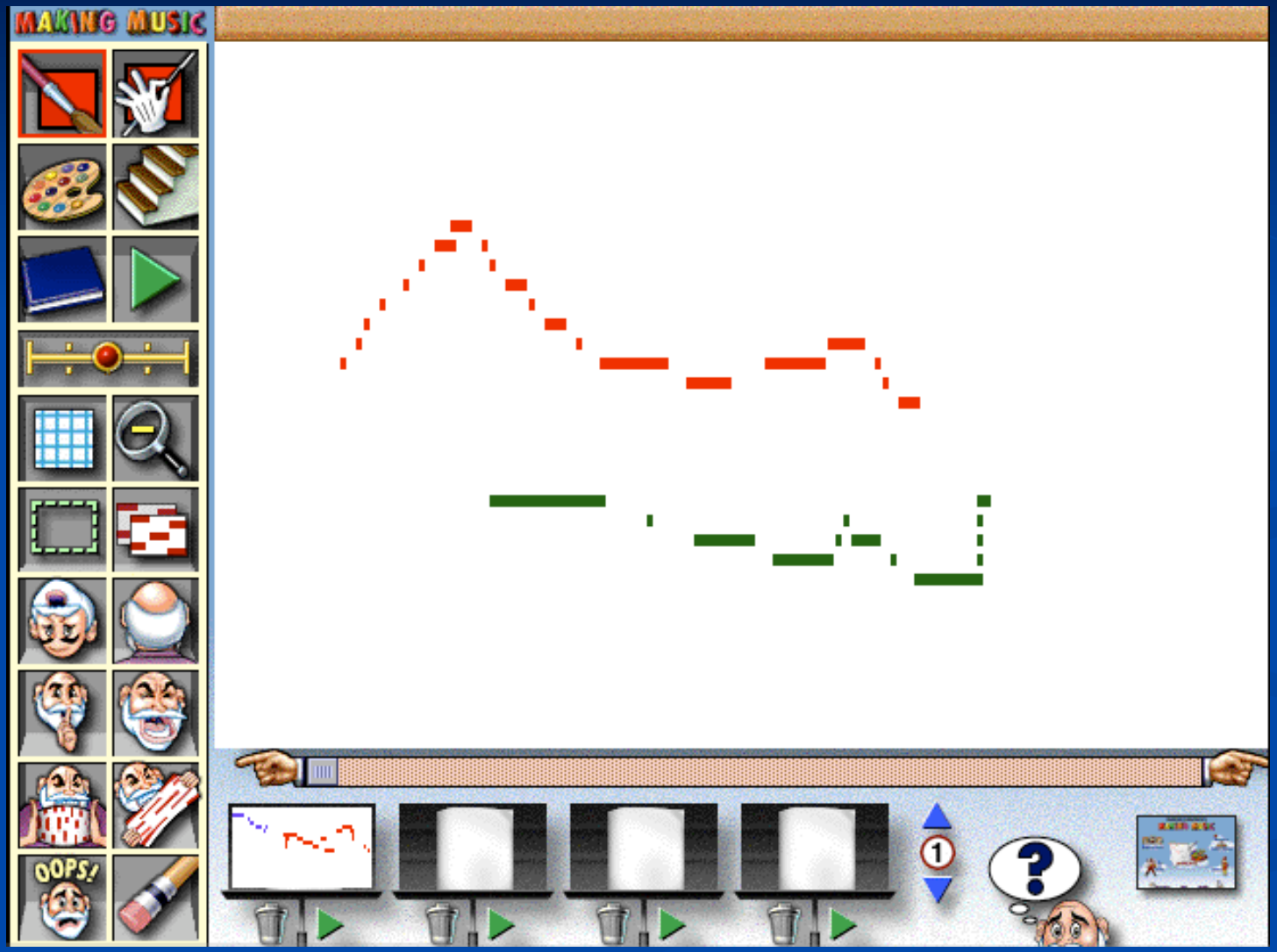
Sibelius Instruments (Mac/PC)

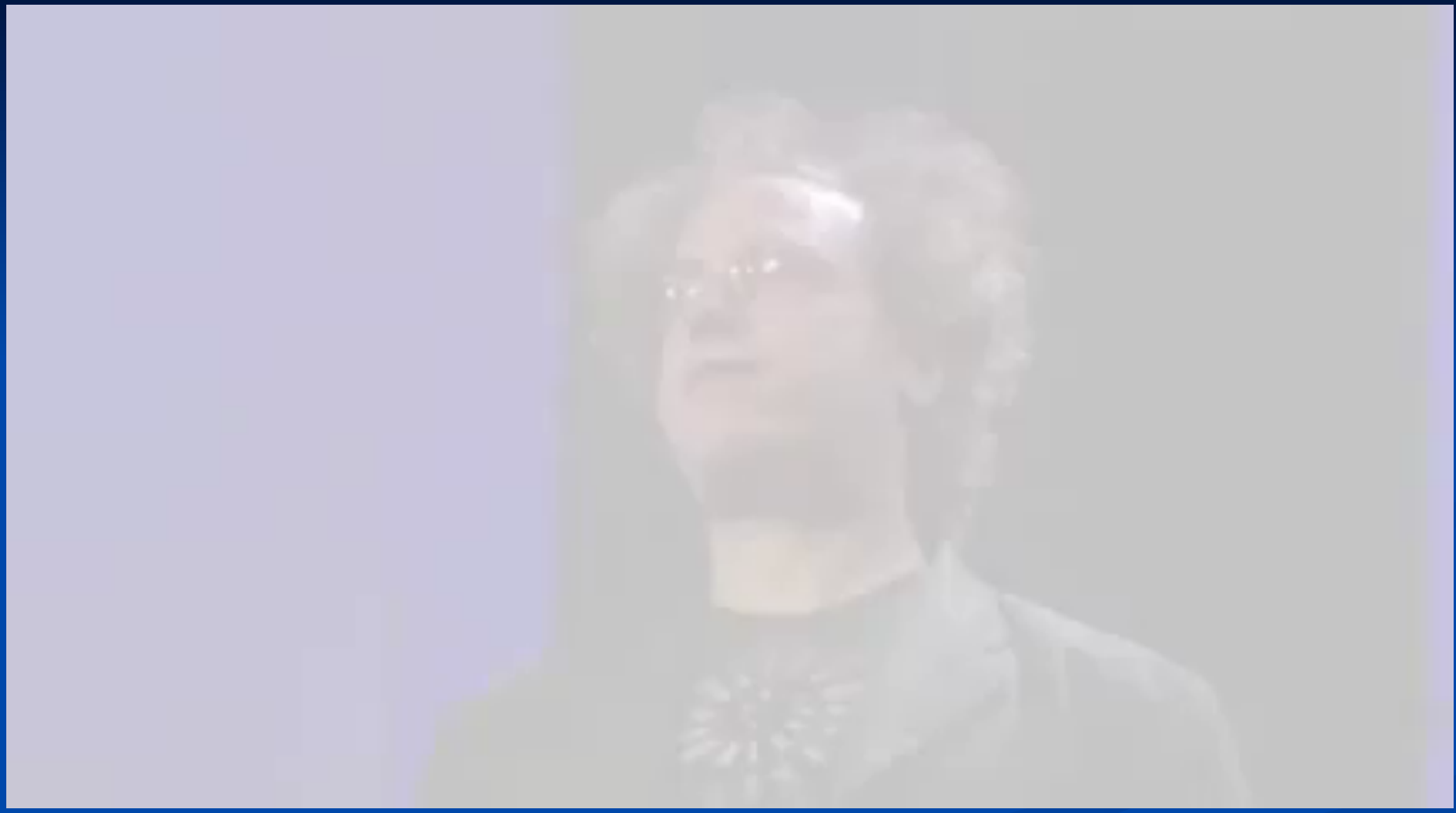


Band-in-a-Box (Mac/PC)



Making Music (Mac/PC)





Key Question

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

Questions!!