A black and white photograph of a woman playing a piano. She is seated at the piano, her hands on the keys. Another person is leaning over her shoulder, looking at the piano. The lighting is dramatic, with strong highlights on the piano and the woman's hands, and deep shadows elsewhere. The overall mood is focused and artistic.

# Score-Learning as Creative Problem-Solving

A Basis for Diverse Performances

**Charise Hastings**

Tallahassee, Florida, USA

Pablo Picasso

*Minotauromachy*  
(etching, 1935)



*Guernica*  
(1937)



# Creative Thinking

the process of solving a novel problem

# Novel Problem

a problem new to any person

# Problem

an undesirable state, and not knowing immediately how to change it

# Problem Space

includes all possibilities, factors and means for solving one's problem

# Stages of Problem-Solving

## 1. Represent the Problem

well-defined (math equation)

ill-defined (learning a score)

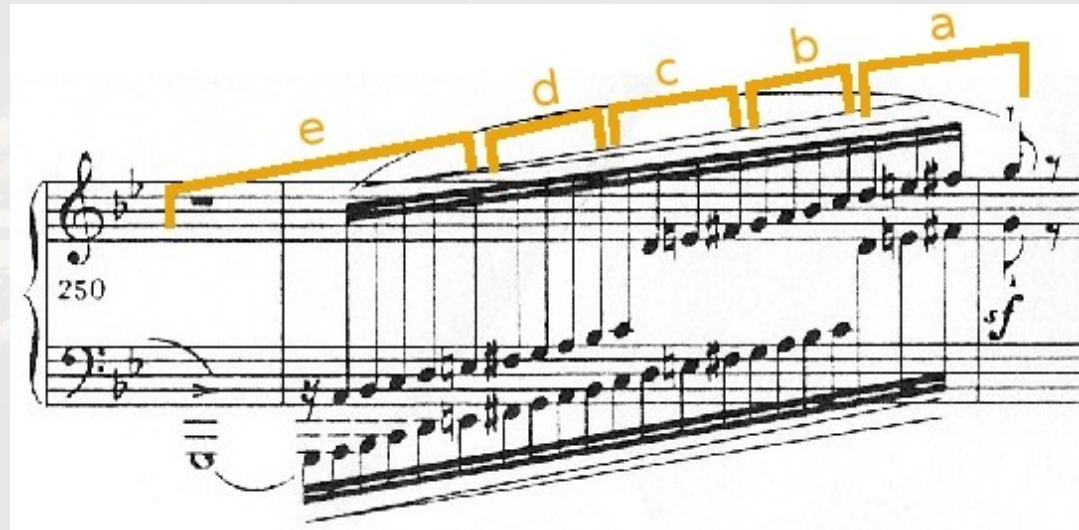
## 2. Match with Existing Knowledge (Strong Method)

analogical transfer: problem solved

## 3. Apply Heuristic Processes (Weak Method)

add constraints

create subgoals



# Sample Interview Questions

## General

Does the Ballade overall seem cohesive to you, or is that one of its problems?

Do you favor a particular edition for Chopin?

What is the emotional character of the coda?

How can students remember their musical goals while practicing?

## Score Indications

How do you interpret the accents?

What do you think about the pedal indications?

How should students interpret the meter with the accented off-beats?

## Technical

How do you help students achieve accuracy in the left hand?

How can students learn to switch octaves quickly in the right hand?

How can students keep from fatigue or tension?



# Goals

play in a way that is fresh and true to oneself

play piece well

raise students' awareness of the score, sound, physical motions

find appropriate techniques for learning the piece

# Strong Method: Groupings

the [dynamic] shaping leads to the [physical] feeling

SH

The image displays a musical score for piano, consisting of two systems of staves (treble and bass clef). The tempo and mood are indicated as "Presto con fuoco". The score is annotated with several elements:

- Subphrases:** Two brackets labeled "subphrase 1" and "subphrase 2" are placed above the first system. Subphrase 1 spans measures 208-210, and subphrase 2 spans measures 211-213.
- Dynamic Shaping:** Yellow curved lines are drawn across the notes in measures 208-210 and 211-213, indicating the dynamic contour of the music. These lines show a rise in dynamics followed by a fall.
- Annotations:** Purple rectangular boxes highlight specific notes in measures 208, 209, 211, and 212. The word "Led." is written below the bass staff in measures 208, 209, 211, and 212, with an asterisk (\*) below it in measures 209, 211, and 212. The number "8" is written above the treble staff in measures 208 and 211.
- Measure Numbers:** The numbers "208" and "211" are written in the left margin of the first and second systems, respectively.

# Strong Method: Choreography

hands move in opposite directions  
**create larger, graceful patterns**

ST

coordinate hands, left hand circles “under” piano  
**grab chords with fingers**

LC

hands move in opposite directions, rhythms  
**get out of the key**

RM

Musical score for piano, measures 208-214. The score is in 3/4 time and features a treble and bass clef. The right hand (RH) plays a melodic line with slurs and accents, while the left hand (LH) plays a bass line with slurs and accents. The score includes dynamic markings such as *sf* and *ped.* (pedal). A dashed box highlights a specific passage in the right hand. The score is numbered 208 in the bottom left corner.

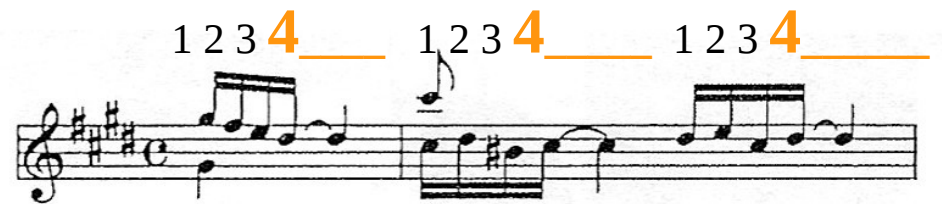
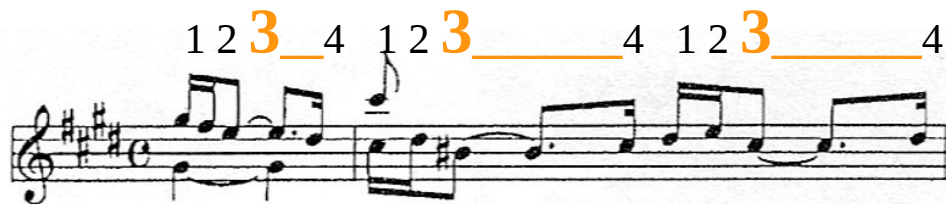
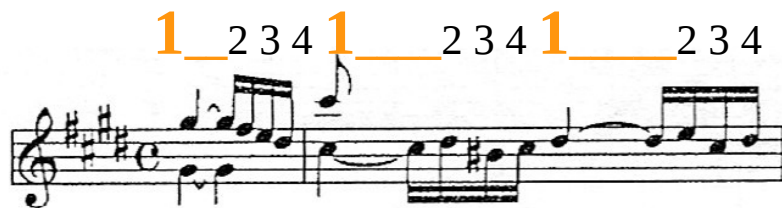


# Strong Method: Varied Rhythms

freedom is only measured against a standard

WL

Chopin Etude,  
Op. 10, No. 4  
(right hand only)



# Weak Methods: Means-End Analysis

1. Identify difference between goal state and current state
2. Find operator, constraints to remove or reduce difference
3. Apply operator; if operator cannot be directly applied, define subgoal to remove obstacle
4. repeat above steps until goal is achieved

# Weak Methods: Means-End Analysis

1. Identify difference between goal state and current state  
playing not fresh or true to self, lack of own ideas,  
imitating recordings
2. Find operator, constraints to remove or reduce difference  
develop own ideas from score
3. Apply operator; if operator cannot be directly applied,  
define subgoal to remove obstacle  
subgoals: raise student's awareness of details in score,  
sound, and physical motions
4. repeat above steps until goal is achieved

# Weak Method: Reduce Problem Space

subgoal

raise awareness of details in score

add constraints

play only written notes and rhythms  
account for expressive markings  
respond to pedal indications  
make conscious decisions  
recognize harmonic progressions

216

The image shows a musical score for piano, consisting of a treble and bass staff. The score is annotated with several yellow boxes containing the word "Ped." and an asterisk (\*), indicating pedal points. A blue bar at the bottom of the page highlights the pedal markings. The score includes various musical notations such as notes, rests, and dynamic markings.

# Weak Method: Planning

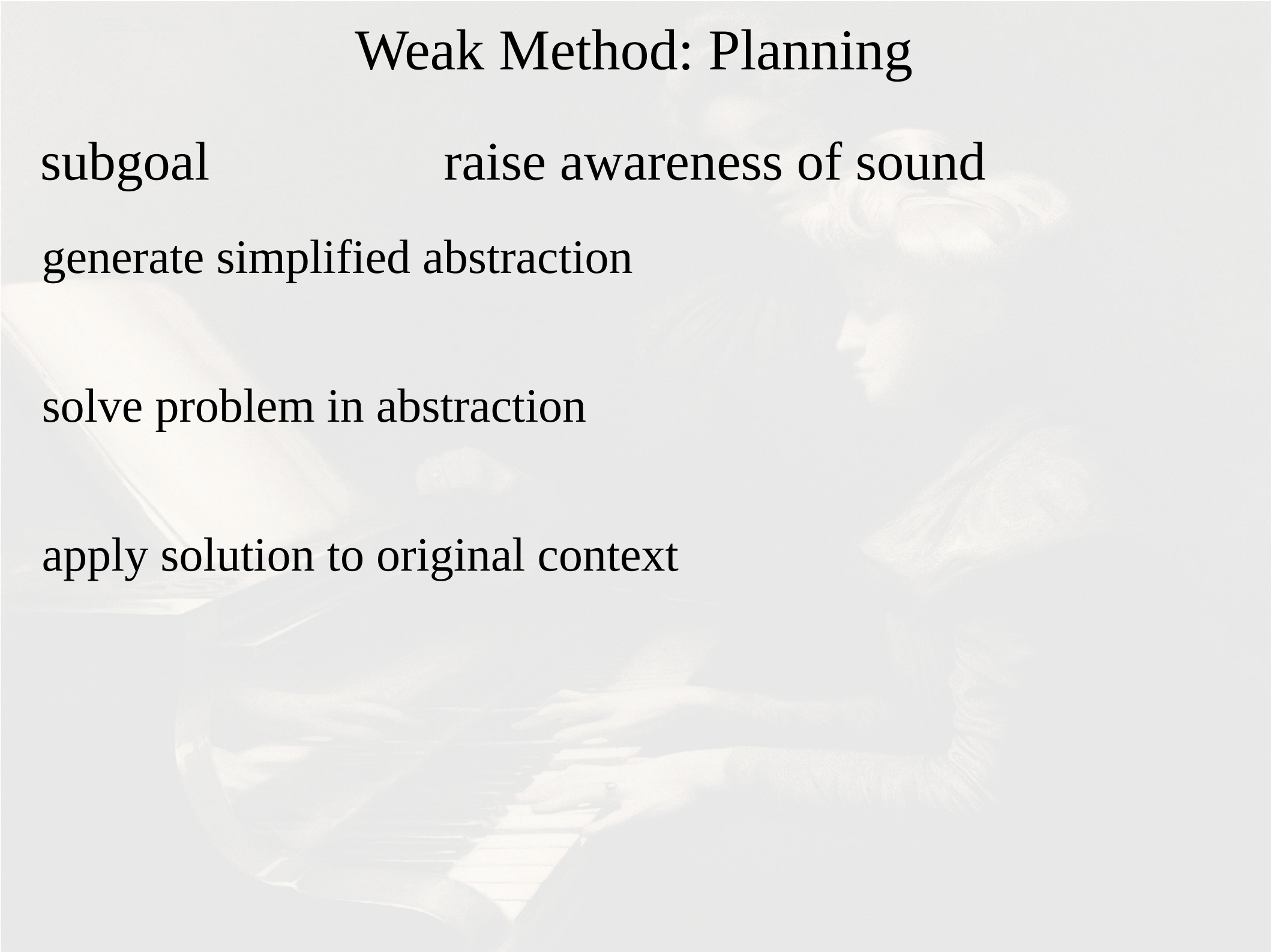
subgoal

raise awareness of sound

generate simplified abstraction

solve problem in abstraction

apply solution to original context



# Weak Method: Planning

subgoal

raise awareness of sound

generate simplified abstraction

play phrase in blocked chords

solve problem in abstraction

play chords like a nocturne, find phrase shape

apply solution to original context

keep phrase shape when playing all notes

HG

216

passing EbM

passing EbM

Lead. AbM \*    Lead. D7\*    Lead. Gm\*    Lead. AbM \*    Lead. D7    Lead. Gm

The image shows a musical score for piano, numbered 216. It features a treble and bass clef. The score is annotated with yellow boxes highlighting specific chordal structures. Above the first and fourth boxes, the word "passing" is written in orange, with "EbM" below it. Below the score, a series of chord diagrams are shown in orange text: "Lead. AbM \*", "Lead. D7\*", "Lead. Gm\*", "Lead. AbM \*", "Lead. D7", and "Lead. Gm". The asterisk (\*) likely indicates a specific voicing or fingering. The background of the slide features a faint image of a person's face.

# Weak Method: Means-End Analysis

subgoal  
add constraint

raise awareness of physical motions  
maximum ease, efficiency, comfort

set subgoal  
add constraint

play each phrase adequately  
work with student's problems

set subgoal  
add constraint

play with flow and accuracy  
use arpeggio technique

set subgoal  
add constraint

choose one technique  
apply Feldenkrais principle

GR

216

1-5 5-1 1-5 5-1 1-5 5-1 1-5

ped. \*

The image shows a musical score for piano, consisting of two staves (treble and bass clef). The score is annotated with orange text '1-5' and '5-1' above the notes, indicating specific fingering techniques. The score is divided into measures by vertical bar lines. Below the bass staff, there are annotations 'ped.' and '\*' indicating pedal use and phrasing. The number '216' is written in the bottom left corner of the score area.

# Heuristic Methods for mm. 216-219

## Reduce Problem Space

subgoal

raise awareness of score  
interpret accents, pedaling

## Planning

subgoal

raise awareness of sound  
play blocked chords for phrasing

## Means-End Analysis

subgoal

raise awareness of physical motions  
use arpeggio technique

216

The image shows a musical score for two staves, likely piano and bass. The score is for measures 216 to 219. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one flat (B-flat). The music features complex chordal textures with many beamed notes and accents. Pedaling instructions are present in the bass staff, marked as 'Ped.' followed by an asterisk (\*). The score is divided into four measures, with a large slur spanning across the first two and last two measures.