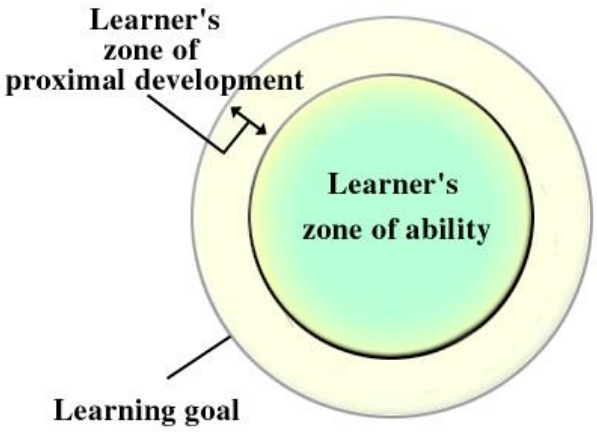
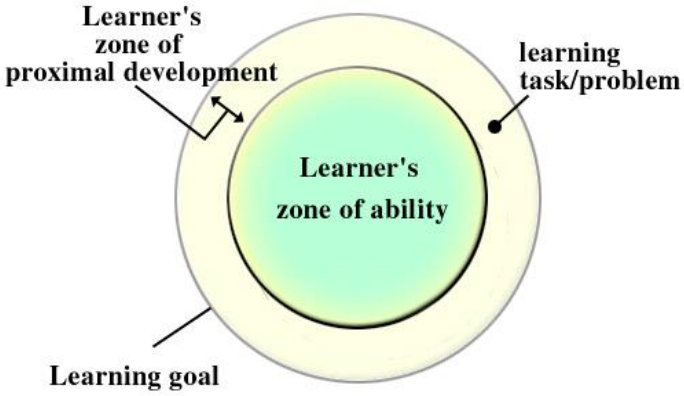
**Personal ID Theory**
**Goal Focused Rehearsal**
Will Findlay

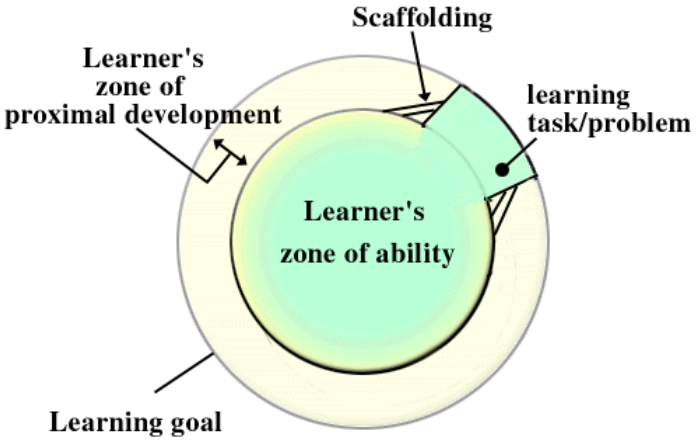
This theory of instruction outlines methods that will be used primarily to design instructional products and programs.
Before beginning my theory let me define what I believe to be the essence of instruction.



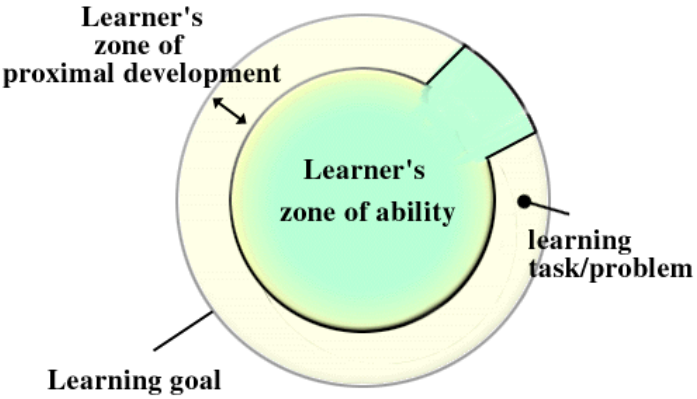

1. First of all, for instruction to be necessary, someone (we will call the learner) must *not* be able to do a target performance at a certain level of skill and consistency. The learning goal should be outside the realm of their ability. This requires some informal or formal assessment of the learner's zone of ability, and an assessment of how difficult the task will be for the learner.



2. Next, someone or something (we'll call it the instructor) should begin by paradoxically asking the learner to do something outside their ability; something they do not know how to do, or cannot do. This might be a simplified version, step, or component of the complete performance. Eventually it will be a full-blown version of the overall task. (Note that the learner and instructor may actually be the same person during self-instruction.)




3. Since the learner cannot currently perform the task, the instructor and learner together must find an effective scaffold that enables the learner to perform at gradually more expert levels. Note that if the instructor pre-chooses a scaffold incompatible with the learner that the learner has to come up with their own scaffold.




4. The learner must practice the target skill until the scaffold can be removed and the learner's skill can stand on its own. This cycle should then be repeated until the Learner's ability matches the learning goal.

My personal meta-rule of instruction is this: Unless you and the target audience are vastly different, try to imagine how you would want to experience the instruction, and then create instruction that you would want to participate in a student. If you design something that you would find dreadfully boring, then don't use it. This sounds simplistic, but it can be easy for the designer to overlook thinking of himself or herself as the student. A good starting place for choosing an instructional strategy is to ask the question, "If I was learning this, how would I want the instructor or instructional system to teach it?" Or even better, "If I was … a teenager, a factory worker, a senior citizen, a non-native English speaker … what help would I want and need to learn this skill?"
Of course, you also have to recognize that sometimes the learner may have to do things they would rather not do to learn the particular content. In this case, you should also ask, "What would motivate and convince me, as a learner, that doing this task would help me learn the content?"

Having stated the preceding as my overarching instructional design theory I will now go into more detail of my Personal Theory of Instruction.

## Goal Focused Rehearsal:

I chose the term "Rehearsal" because during a rehearsal, those people learning (the musicians) are actively involved in the learning process. The instructor (the music director) is constantly asking them to perform and then stopping them when there is a need to provide scaffolding or help correct mistakes. Also, a rehearsal implies that the learning environment can be modified in a way that is scaled back from the eventual final performance. The term "Goal Focused" refers to the need for explicit goals in order for learning to be optimized. The learner and the instructor need to be aware of each other's goals and negotiate a common set of goals.

### 1. Values

#### 1.1 Performance - Multiple opportunities for varied types of performance by the learner and expert (or expert system) in a non-threatening environment

1.1.1 This theory helps learners prepare for performing in general (someone learning to perform music) as well as for specific performances (someone learning to perform a Mozart piano concerto). The theory values performance because it is the primary means for people to communicate, share knowledge and collaborate. Communicating, whether it is through speaking, singing, acting, or playing an instrument, requires a performance. Physical labor requires performance as well. In

fact it seems fair to say that nearly all expression requires some kind of performance.

1.1.2 This theory acknowledges that learning involves more than external behavioral performance. A learner can prove their knowledge without this performance being externally visible. For example, I may be able to define a word mentally without being able to express it to you verbally. The fact that the performance does not occur in a way observable to you does not mean the task was not performed.

#### 1.1.2.1 What is a performance?

1.1.2.1.1 When a person causes something to change, or prevents something from changing that would have otherwise changed, and this change occurs (or is prevented) with intent (on purpose), this occurrence is a performance. If the change is equal to the intent, it has been a successful performance. If a change is caused (or prevented) but it is not equivalent to the intent, it has not been a success. A prerequisite for change is time. Without the passage of time, there is no change, and therefore no performance.

1.1.2.1.2 Practice is a kind of performance. Practice implies a "denatured" performance. Aspects of an ultimate performance have been temporarily eliminated, or are taken over by an instructional system.

### 1.1.3 The role of understanding

1.1.3.1 Understanding is the preparation for a performance. It is the arranging of mental resources in such a way that a future performance will be facilitated.
Let me compare a performance with a volcanic eruption for a moment. Before a volcanic eruption, forces cause magma to move under the Earth and build up in the piping under the volcano. When the pressure builds up enough, the magma bursts through the Earth into an eruption. After all that arranging of underground magma, an eruption is possible. Likewise, the understanding process is a

strategic arrangement of mental magma in order to facilitate some later performance.

1.2 **Practice - Large amount of time should be budgeted for practice. Both of the following should be included:**

- 1.2.1 Practice that is structured by the expert for the learner
  - 1.2.1.1 This is especially important in the following situations:
    - 1.2.1.1.1 The skill or content to be practiced is new to the learner
      When a learner is unfamiliar with a particular skill set, it is not enough to tell them what to practice, but they also need to know details about **how** to practice.
    - 1.2.1.1.2 The instructor's goal is to help the student improve their practice.
- 1.2.2 Practice that is structured by the learner
  - 1.2.2.1 This is especially important in the following situations:
    - 1.2.2.1.1 When a learner is familiar with the skill or content.
    - 1.2.2.1.2 When the instructional goal is to help the learner find methods of practice that work best for the individual
- 1.2.3 Non-evaluated practice
- 1.2.4 Evaluated practice

1.3 **Learners should ask questions continually (either visibly or invisibly) during the learning period to facilitate learning.**

- 1.3.1 The instructional system should encourage the learner's formulation of questions and provide the learner the means of finding answers to these questions.
- 1.3.2 One way of achieving this goal is for the instructor to ask a question that involves the learner. It is important, for example, to break up long passages of text with an occasional question that can be answered by the learner, or by reading on in the text.
- 1.3.3 A second way of achieving this is to formally ask learners to write or ask questions during instruction. You might say to someone who wants to learn to improvise jazz music, for example, "When we finish listening to this jazz solo, I want you

to ask me three questions about what you heard." Then you can ask the student to find the answer to these questions.

1.4 **Learners should have access to commentary-laden examples of expert performance.**

It is both instructive and motivational to see an expert at work on what you are trying to learn. When I began High school I will never forget that I found out that my Junior High German teacher was pronouncing a common word ("denn") incorrectly. In all my Junior High German classes we had not actually observed a German person speaking German! It is important to refer to expert performance to build the understanding needed for performance.

1.5 **Mastery learning - assessment and practice should be wound together cyclically allowing the student to practice until they have mastered the learning task.**

In many courses today, a teacher gives assignments, and then at the end of a course section, gives a test. My approach would be to give assignments that incrementally become more like tests as the scaffolding is removed. There is a disconnect between assignments and testing that encourages students to cram because they often don't know have a way to gradually ramp up to the test.

1.6 **I value instruction that caters to the evolving needs of someone increasing in skill. The instructional system should be able to change strategies as the learner increases in skill.**

## 2. Situations

### 2.1 Preconditions

2.1.1 This theory is for learners whose goal is to perform or directly apply their new knowledge to a performance.

2.1.2 It should be possible for a computer to manage the learning environment.

2.1.3 Provision should be made to allow for students to practice while away from the computer or instructor.

2.1.4 The instructor role may be simulated by a computer program

2.1.5 The computer may also act as a means of facilitating communication between people.

2.1.6 Content matter will be music related - or - it will be approached through the metaphor of music.

2.1.7 Computer mediation will be centralized (through a web server).

### 2.2 Communication possibilities

Here are listed different modes of communication that should be considered during design. No attempt has been made at this time to generally identify when to use the different modes.

- 2.2.1 Learner/learner
  - 2.2.1.1 Live learner
  - 2.2.1.2 Simulated learner
- 2.2.2 Learner/expert
  - 2.2.2.1 Live expert
  - 2.2.2.2 Simulated expert
- 2.2.3 Learner/coach
  - 2.2.3.1 Live coach
  - 2.2.3.2 Simulated coach
- 2.2.4 Learner/evaluator
  - 2.2.4.1 Live evaluator
  - 2.2.4.2 Simulated evaluator
- 2.2.5 Learner/navigator
  - 2.2.5.1 Live navigator
  - 2.2.5.2 Simulated navigator

## 3. Methods

### 3.1 Perform to find learning weaknesses

WHEN: Should be emphasized with new learners

- 3.1.1 Learners should be persuaded to abandon feeling embarrassed because of a poor initial performance. They should be encouraged early in the learning environment to try performing in order to understand their own mistakes. The instructor should help the learner feel comfortable about making these mistakes.
- 3.1.2 Care should be taken to make the learner feel comfortable performing at an early stage of learning. Tell the learner that mistakes will not hurt their evaluation, but will be used as springboards for improvement.
- 3.1.3 Use early encouragement and reassurance to help the learner feel comfortable about initial mistakes. Share with the learner stories of how experts felt when they were first learning the skill.
- 3.1.4 Minimize consequences for mistakes made by the learner when skill level is low. Then gradually approach a simulation of real world consequences as skill level increases.

## 3.2 Strategies for chunking and sequencing GFR

### 3.2.1 Whole approximations

**WHEN: Should be used whenever the learning goal not immediately attainable (requires practice)**

3.2.1.1 Instead of breaking down the overall performance into fragmented chunks, create a practice situation where the whole task is approximated, but at a scaled down level. Find a way for the learner to artificially perform the task (providing scaffolding, or by giving them power moves which cause a bunch of lower level actions to occur) so that they are approximating the whole performance. Add detail to this performance by taking away scaffolding and/or including greater detail and complexity.

3.2.1.2 A corollary model of whole approximations is "increasingly complex microworlds" found in the article "Skiing as a model of Instruction" (Burton, Brown, & Fischer, 1984). It outlines three methods for generating "alternative microworlds":

3.2.1.2.1 Manipulation of equipment (short skis before long skis)

3.2.1.2.2 Manipulation of physical setting (constant snow conditions such as packed slopes before the variability of ice and powder)

3.2.1.2.3 Manipulation of task specifications (traverse a small incline before navigating moguls)

3.2.1.3 Dr. Reigeluth's Simplifying Conditions Method (SCM) of the Elaboration Theory. (Reigeluth, 1999)

3.2.1.3.1 Begin by teaching the simplest version of a task that still embodies the task (Epitomizing). Then gradually teach more complex versions until the criteria of complexity are satisfied (Elaborating). He makes an important point: Make sure to tell the learner how each version of the task differs from each other. (Reigeluth, 1999). It is useful for the student to understand the nature of the task and all

that it entails as well as how to perform the task.

3.2.2 Work models (Gibbons, Fairweather, Anderson, & Merrill, 1997).

**WHEN: Should be used whenever performing a skill requires a combination of various subskills that are combined in various ways.**

3.2.2.1 Use practice tasks that are built by combining several objectives, or take one objective and map it onto several kinds of tasks. Practice tasks should have a beginning, middle, and end that map with an authentic task.

3.2.2.2 Use practice tasks that are satisfying:

3.2.2.2.1 the outcome or product of the task is authentic enough to please the learner. (for example, if they are playing a melody, make sure the melody is something that sounds like a real melody, not an artificially simplified sequence of notes)

3.2.2.2.2 The practice task focuses on one dimension of the performance (see Dimensional practice)

3.3 Dimensional practice

**WHEN: Useful if the learner is learning a skill that requires juggling many thoughts/actions at the same time. (Such as Piano playing/ hitting a baseball)**

3.3.1 Identify performance dimensions

3.3.1.1 Express the various dimensions of the performance to the learner. Dimensions are kinds of qualities that make up a good performance.

3.3.1.2 Identifying performance dimensions of a task requires a special analysis of the task. This analysis answers the question, "how can the task be evaluated?" In the case of a musical performance these dimensions might be intonation, rhythmic accuracy, note accuracy, and expressiveness. Another type of task might have a different set of dimensions.

3.3.2 Select a single performance dimension and designate it as the intent of the performance.

3.3.3 Select other performance dimensions and recognize that they will not be a part of the current performance set.

3.3.3.1.1 I think it is important not only to designate what you will use as the criteria for a good practice performance, but also the criteria that will not be considered. This eases the learner's mind by helping them realize that they will not have to perform perfectly on the first attempt. For example, you might have students practice writing a news story with the goal of including all of the most relevant facts, the "anti-goals" might include not worrying about spelling or grammatical mistakes. On a second practice attempt, these goals would then be rotated.

## 3.4 Provide examples of expert performance

3.4.1 The examples should:

3.4.1.1 be at a difficulty level slightly above the learner's current ability level.

3.4.1.2 include a "commentary track" that draws attention to critical aspects of the performance

3.4.1.3 differ between each other in only one characteristic:

3.4.1.3.1 the performer of the task

3.4.1.3.2 the subclass of the task (for example, if performing a rhythmic pattern, the task might be varied by the number of beats per measure)

## 3.5 Scaffolding/Fading - Graduated cycle of performer independence

3.5.1 Role of instructional system should gradually be removed until learner can "stand on their own two feet"

3.5.2 Kinds of scaffolding

### 3.5.2.1 Observation

3.5.2.1.1 Watching someone solve a problem can be a scaffold to solving the problem for the learner. This is a scaffold that can be used to introduce what it means to perform the task.

### 3.5.2.2 Directions

3.5.2.2.1 The instructor can tell the learner each step needed to solve the problem as the learner is

performing. You might ask, "isn't this just direct instruction?" I would argue that it is close, but the distinction is that the learner has been asked to perform the task ***before*** they are given the directions.

#### 3.5.2.3 Shared solving

3.5.2.3.1 The “problem giver” (in most cases the instructor) solves a portion of the problem for the learner.

3.5.2.3.2 Example: Where a solution has two distinct parts, the problem giver can solve one of the parts. For example, in music the note known as “middle C” is also known as C4. The letter represents a pitch, while the number represents the octave that contains the pitch. Lets say that an instructional goal is for the learner to be able to look at key on a piano keyboard and give its name (note + octave) One type of scaffold would be for the instructor to solve one part of the problem. It would initially ask, “The note you see is a C in what octave?” or “The note in octave 3 has a pitch name of?” As the student increases in skill, the problem giver would solve fewer and fewer parts of the whole problem.

#### 3.5.2.4 Limited Responses

3.5.2.4.1 In this method you reduce or expand the number of ways for the learner to respond. This is similar to a multiple choice test, except that the intent is not to evaluate what the learner knows, but to narrow the choices the learner has to make to aid their performance. For example, if a solution to a math problem only requires multiplication and addition, it might mean removing the subtract and divide buttons from their calculator. This method can be applied or removed depending on how well the learner is performing. If you ask a student to give the Spanish word for eat and they can’t tell you (or type it in) on the

first try, the method might be applied by giving the student several word choices on the next try.

#### 3.5.2.5 Nonexample scaffolds

3.5.2.5.1 In this approach, as the problem is given, the instructor also outlines a pitfall in solving the problem. The pitfall, an incomplete or erroneous solution or solution strategy that is often selected by the novice, can be derived by analyzing mistakes made by previous learners. Statistically high recurrences of past mistakes would be considered "pitfalls."

3.5.2.5.2 The purpose of "Nonexample scaffolds" is to anticipate wrong paths the learner might choose and warn them not to take them as well as identify why they are pitfalls.

#### 3.5.2.6 Artificial methods

3.5.2.6.1 "Scaffolding with the artificial" is providing details that are understood implicitly by an expert. These details usually do not appear in the real world (for example, your new car doesn't come plastered with labels telling you the name of each of its parts).

##### 3.5.2.6.2 Artificial labels

3.5.2.6.2.1 If the problem is given through visual media, labels may be added to the visual example that do not occur in the real world. For example, if you asked someone to play an "F" on a keyboard, you might include a label indicating where "C" is, or in a more scaffolded example, you might label all of the keys.

##### 3.5.2.6.3 Artificial structuring

3.5.2.6.3.1 These are added structural lines, grids, or maps that do not occur in the real world. These are related to the "artificial labels" given above except that they don't just name an object, they help the learner see the framework an expert sees in a problem space. For example, if a geology problem is presented, lines might be drawn over a photograph to illustrate different layers of the earth. Later if skill increases these lines

could be removed, or if skill decreases a combination of artificial structuring and labels could be included.

#### 3.5.2.6.4 Artificial models

3.5.2.6.4.1 In some cases an illustration or representation of a model might be included to scaffold a problem solution. In a geometry story problem, an added picture of a rectangle with one leg labeled 'x' and another labeled 'y' would be an "artificial model." Note that this is something an expert (or even a clever novice) might produce as part of the problem solution -- a kind of "self-scaffold". As the instructor developed scaffold is removed, the student could be required to include their own model as part of the solution.

#### 3.5.2.6.5 Time Scaffolds

3.5.2.6.5.1 Time can be a scaffold. The amount of time the learner is given in order to solve a problem could be artificially increased from a real world reality.

## 3.6 Mastery Practice

### 3.6.1 Explanation

3.6.1.1 The purpose of the Mastery Practice model is to help the learner build a skill. The strategy focuses on building a performer's technique and so is best applied at lower level skills. Using this approach alone in learning a piece of music for example, might produce excellent technique, but would probably not aid in developing more subjective style and expression. This model focuses on the technical dimension of a performance.

3.6.2 **Resources Needed**. This instructional model requires the following resources:

3.6.2.1 A library of problems

3.6.2.1.1 Problems should be categorized into different levels of difficulty,
i.e. Level 1, Level 2, Level 3...

3.6.2.1.2 Difficulty level can be based on:

3.6.2.1.2.1 The amount of scaffolding included with the problem

3.6.2.1.2.2 The total number of steps required to solve the problem

3.6.2.1.2.3 The level of ambiguity in solving the problem
3.6.2.1.2.4 The open-endedness of the solution
3.6.2.1.2.5 The number of characteristics of the solution
3.6.2.1.2.6 ...

3.6.2.2 A means of delivering the problems
3.6.2.3 A means of solving the problem (a simple solution is a lookup table or key - a more sophisticated one might be an algorithm that actually makes it so the computer can solve the problems)
3.6.2.4 A means of assessing the learner's problem solving process
3.6.2.5 A means of assessing the learner's solution
3.6.2.6 A means of providing scaffolding feedback
3.6.2.6.1 Scaffolding feedback means that if the system detects a mistake made by the student that it can gradually give more revealing feedback instead of only giving an answer.

3.6.3 **The instructional strategy** or procedure for using the model:
3.6.3.1 **Present a problem to the learner from the Level 1 category.**
(The default starting point is Level 1, but the system should allow the student to jump up or down levels if they choose - if they can master the final level, they have completed the activity)
**3.6.3.2 Allow the learner to solve it.**
3.6.3.3 **Provide tools** (such as a calculator) and other **resources** (such as a dictionary) that will aid in the problems solving process.
3.6.3.4 **Provide a means of capturing the student's problem solving process.** One way this can be done is by recording how the student uses the tools and resources. So, for example, if you asked a student to find 75% of 200, the system could watch to see if they multiply .75 and 200. See John Anderson's cognitive tutors ( http://act.psy.cmu.edu/ )
3.6.3.5 If the problem solution is simple and solvable by the instructor, use this approach in determining mastery:
3.6.3.5.1 **Keep a history of correct answers:**
Lets say a student has tackled 5 problems so

far. Their history might look like this: Problem 1 was incorrect, # 2 was correct, # 3 was incorrect, # 4 was correct, and # 5 was correct. We can further reduce this to using '1' to represent 'correct' and '0' to represent incorrect. The list would look like this: [0,1,0,1,1].

3.6.3.5.2 **Determine if mastery has been reached.**
This requires a criterion of mastery.
The mastery criteria is made of three parts:

3.6.3.5.2.1 a minimum number of problems that must be tackled

3.6.3.5.2.2 a maximum history list length (often the same as minimum number of problems to tackle)

3.6.3.5.2.3 a minimum percent correct of the problems being counted

3.6.3.5.3 An example criteria might read as follows:

3.6.3.5.3.1 To achieve mastery, the student must:
1. tackle at least 10 problems (minimum number of problems)
2. score 80% correct (minimum percent correct) over the last 10 problems (history length)

3.6.3.6 **Advance to the next level when mastery is achieved.**
If mastery has been achieved for all levels, then they have completed the activity.

## 3.7 "Fill in the Gap" instruction

3.7.1 In this method, you give the learner the beginning and the end of a process and leave out the middle. The job of the learner is to create a process that gets something from point A to point B. If it is a math problem, this means they need to determine which function caused (or can cause) the solution. For example, here is how you would state a problem:
4 _ 3 to ? to 7.
Their problem space would look like this
4 _ 3 to _____ to _____ .
They could write anything they wish to in the middle blank. When they indicate that they are finished, the instructor would evaluate their expression. So if they wrote:
4 _ 3 to __4 - 3_
It would display:

4 _ 3 to ? to 7.
4 _ 3 to __4 - 3__ to 1.

They would then be able to see that they had made a mistake, but at the same time would see the answer to the expression they had formed. This is an efficient feedback method because it not only tells them whether they got the answer correct, but it also lets them know what the answer to their incorrect expression would be.

Finally, when they entered the correct expression, a history of all of their attempts would be shown as follows:

4 _ 3 to ? to 7.
4 _ 3 to __4 - 3__ to 1.
4 _ 3 to __4 + 3__ to 7.

They would then be able to reflect on how they reached the correct answer, and could be encouraged to analyze the difference between their answers.

3.7.2 This could also be used for learning histories

3.7.2.1 Tell the beginning and end of the story, and ask what happened in between.

## 4. Other Methods not yet expanded and integrated

### 4.1 Practice types

4.1.1 purposeful (goal-oriented)

4.1.2 problem-solving (self selected and sequenced problems)

### 4.2 Apprenticeship

4.2.1 Learner should be exposed to expert heuristics

4.2.2 There should be an "expert" resource (a glossary would be a primitive version of this)

### 4.3 www.MovieCritic.com (an example of an adaptive system)

### 4.4 Scope

4.4.1 Learners should be presented materials and problems that gradually increase in complexity.

4.4.2 Instruction should occur in multiple passes. Each pass getting more and more detailed

### 4.5 System reveal

4.5.1 Helpful cause and effect relationships should be described/demonstrated/simulated

4.5.2 User should be able to experiment with changing the system

### 4.6 Feedback

4.6.1 Feedback should primarily be an enhanced comparison/contrast of the learner's answers/performance with an expert's answer/performance

### 4.7 Motivation

4.7.1 Instruction should convey why the content is intrinsically motivating

### 4.8 Cyclic events

4.8.1 The "events of instruction" should occur in a cycle, vacillating between observation and performance, these two tasks hopefully becoming more and more integrated as the learner progresses.

### 4.9 Learner-informed

4.9.1 Learner should be able to locate themselves easily in the instructional process.

### 4.10 Learner as teacher

4.10.1 Put the learner in situations where they will teach the skill they are learning.

## References

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On the following page is an elaboration of the Dimensional Practice method listed on page 8:

# Goal Focused Rehearsal

## An instructional theory for structuring practice

Will Findlay

## Dimensional Practice

### Methods

### I. Identification of performance dimensions

**Express the various dimensions of the performance to the learner. Dimensions are kinds of qualities that make up a good performance.** For example, during certain Olympic events (such as figure skating) judges rate performers on more than one scale. Each of these dimensions (I.e., artistic, technical, accuracy) represents a different quality valued in a figure skating performance. Another example might be a musical performance. Its dimensions might include intonation accuracy, rhythmic accuracy, pitch accuracy, style, artistic interpretation, speed, and memorization. Each of these dimensions might help define a good performance. As the learner begins to practice, knowing these dimensions aids them in forming a holistic mental model of a complete performance.

For example, a figure skater may be an excellent technician but lack artistic skills, possibly because they didn't know these skills were considered important Knowing from the beginning the importance of the artistic skills would have helped them practice the entire skill set.

Identifying performance dimensions requires a **statement of the performance goal** followed by a **comprehensive list of the performance dimensions** and their **definitions**.

### Alternate representations

Performance dimensions may also be identified by observing an expert performance and extracting the performance dimensions from this observation. Ideally an instructor would point out the dimensions to the learner while they are both observing the performance.

### Multimedia Dimension Identification

In a multimedia setting, a video clip or sound recording of an expert performance (which ideally is the same as the one the learner is attempting to master) could be played while at certain time points a list of dimensions is created alongside the video. For example, as an expert demonstrates singing a very difficult note in

tune, a list item might appear that identifies a performance dimension as "intonation." Later when the singer performs a rhythmically challenging passage, a list item titled "rhythmic accuracy" might appear.

### Learner generated Dimension Identification

Here the learner is asked to provide the dimensions from their own observation. Later they are asked to repeat this exercise so they can compare how their understanding of the task has changed.

## II. Selective Practice

During selective practice the learner and/or instructor **chooses to practice a subset of the performance dimensions.** Initially they should choose one or two of the easiest dimensions. They should recognize that there are other performance dimensions, but should be reminded that the **dimensions not yet chosen should be ignored** until it is their turn for mastery.

It is important not only to designate the criteria for a good practice performance, but also the criteria that will not be considered. This eases the learner's mind by helping them realize that they will not have to perform completely and perfectly on the first attempt. For example, students might practice writing a newspaper story with the single goal of including all of the most relevant facts (a dimension of a good journalistic performance). They would be encouraged not to worry about spelling or grammatical mistakes. On a second practice attempt, these goals would then be rotated and grammar would be the priority.

**Selective practice is a cyclical method.** During the first practice sessions of a new skill, the learner should only worry about one practice dimension. This also means that the evaluation following the learner's attempt will only focus on the chosen practice dimension. **The student should not worry about, nor be bothered about, any errors they make that do not fall within the current chosen performance dimensions.** After successfully mastering one performance dimension, they will move onto the next one that is slightly more difficult. After mastering single performance dimensions they will begin combining them into double, triple, and eventually complete performance dimensions.

### Multimedia Selective Practice

A multimedia application of this method might involve giving the learner a repeated set of problems to solve (I.e., play the musical phrases you see on the screen on your midi keyboard) while varying the performance goals and the

method of evaluation. For example, for the first time through the goal might be just to get the rhythm - without worrying about the correct speed. The evaluation would only check how well they played the rhythm. Next the goal might be to get the correct notes without worrying about the correct rhythm, etc. . . .