Chapter Six

Praise, Prompt, and Leave: The Verbal Modality

Cognitive Overload

Common Sense

How do we help a student who is stuck? The whole human race gives corrective feedback the same way. We might think of it as "human nature" or "common sense."

Imagine helping a student with a math problem. We check through the work to find the difficulty. We explain what the student does not understand, we guide him or her through an example, we check for understanding, and with a parting note of hope, we tell the student that the following problems will be similar to this one.

This helping interaction will take several minutes. And if we paraphrase or answer a

question, it will take a few minutes more. As mentioned previously, tutoring in this fashion causes big management problems. For starters, the teacher:

- · reinforces helplessness
- · loses the class

But there is another problem caused by giving corrective feedback in the form of tutoring – a far more serious problem when we consider the students' ability to learn from our help. That problem is *cognitive* overload.

Cognitive overload occurs when we try to put too much "stuff" into the student's head at one time. Cognitive overload will be the subject of this chapter.

Preview

- How do we help a student who is stuck? Typically we find out what they don't understand, and then we show them what to do.
- This process takes several minutes.
 During this time we not only reinforce helplessness, but we also produce cognitive overload.
- To fit the limitations of auditory memory, corrective feedback must be brief. It must answer the question, "What do I do next?"
- Since our eye immediately finds things in the visual field that do not "belong," we have a natural tendency to focus on the error.
- Beginning corrective feedback by focusing on the error makes the student defensive. In addition, the error rarely provides any useful information.
- We will organize corrective feedback into three steps: Praise, Prompt, and Leave.

In One Ear and Out the Other

The common sense strategy for helping students could be paraphrased as follows:

Find out what they don't understand, and then show them how to do it.

Unfortunately, this strategy does not reflect how the brain works. To put corrective feedback into proper perspective, we need to focus on *long-term memory*, and, in particular, long-term memory in the *auditory modality*.

To make a long story short, we have very limited long-term memory in the auditory modality. Just ask yourself the following questions:

- Have you ever been introduced to someone only to have that person's name slip your mind before the end of the conversation?
- Have you ever forgotten a set of directions that you've just been given by the time you've gotten to your car?
- Have you ever forgotten a phone number by the time you've found a piece of paper to write it on?

These universal experiences convince most of us that we have some kind of memory problem. In fact we do, but we share it with the rest of the human race. While long-term visual memory may be great and long-term kinesthetic memory may be good, long-term auditory memory will get you lost on the way to my house.

Of course, we have only known this for thousands of years. Hence the saying, "In one ear and out the other."

Exploiting Short-Term Memory

Most of what we hear during the day goes in one ear and out the other. It sticks around long enough to make conversation possible, but it soon fades. Very little of what we learn will be stored in long-term memory, and for that we must pay a price. Let's examine the price. Short-term memory is free. And it is nearly total recall. The only problem is that it does not last very long. But at least we're not out a lot of effort. It is simply a by-product of perception.

Long-term memory, on the other hand, requires a great deal of work, particularly with the subjects we study in school. Remember all of the studying we did for those tests in college? Remember studying the same material for the mid-term? Remember cramming it again for the final? Had we been forced to take the final again a month later without studying, we would have flunked it cold.

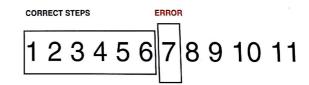
How much long-term memory can you count on as you instruct students during corrective feedback? The simple answer is, "None." You don't have *time* to create long-term memory. You must exploit *short-term* memory because that's all you have.

Since we hit cognitive overload in only a few sentences, we can safely teach only *one step* of the task. But it won't last long, so put students to work *fast* before they lose what you just gave them.

This may sound sensible. But it's *not* the way teachers usually behave.

Teaching "The Whole Thing"

Let's return to helping our student with the math problem. Imagine that the math problem has *eleven* steps. The student is stuck on step number *seven* (diagram below). How do we usually go about helping this student?



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First, we help the student by teaching step number *seven*. If the student understands, we are typically encouraged to proceed to step number *eight*. And, if the student continues to "get it," we will often walk the student through the remainder of the problem before leaving. After all, we know we won't be back.

What demands have we made on long-term memory by walking the student through the remainder of the calcu-

lation? During our helping interaction we will spend several minutes asking the student to encode, store, decode, and perform *five steps of new learning*.

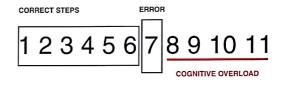
What are the odds that the student can "keep it all straight?" Not much considering that we learn one step at a time. Teaching all the way to the end of the task (steps 8-11 in this case) would represent cognitive overload to a factor of roughly 500 percent.

Getting "Faked Out"

How could such a gross overestimation of the student's ability to "keep it all straight" go unrecognized by the teacher day after day? My best explanation is that we are *faked out*. We are faked out by the confusion of short-term memory with long-term memory.

Short-term memory is quick and easy, whereas long-term memory is built slowly through hard work. But they both *feel* the same. You either remember or you don't. As teachers, however, it is important for us to know which one is operating.

Let's return to our typical helping interaction with the math student. Imagine that you show the student how to do all of the steps of the problem as described earlier. Since you are teaching one step at a time, the student "gets it." You feel good and the student feels good. You feel confident enough to leave, and the student is ready to start the next problem. Everyone experiences "closure." But that closure is based on short-term memory.



Cognitive overload will show itself clearly only in the light of forgetting. After you leave, the student must copy the next problem and solve it by doing steps one through six. By the time the student gets to step seven – the new learning – two minutes have passed.

Now, the student is reaching for *long-term memory*. But we didn't build long-term memory. The student, therefore, finds that many details of solving the math problem have faded. Stuck again!

How can the math student explain this confusion? Other students in class seem to be able to do this stuff, and they didn't have extra help. The most obvious explanation is that, *I must be S-T-U-P-I-D*.



It is easy to drown the student in cognitive overload with our explanations.

Simplifying Corrective Feedback

One Step at a Time

We are going to do radical surgery on the traditional method of giving corrective feedback. We are going to have to cut it down to size. We must align it with what the brain can actually do.

The brain's natural capacity is captured in that ancient truism: All learning takes place one step at a time. All learning takes place one step at a time for one simple reason. That's about all you can "keep straight" long enough to reach the second ancient truism of learning: We learn by doing.

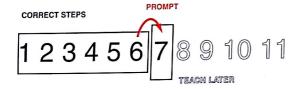
A Simple Prompt

Do not approach corrective feedback with a fancy model of instruction. And, do not engage in complex dialogue. Keep it short and simple.

When stripped of its excess baggage, corrective feed-back can be reduced to a simple answer to a simple question: "What do I do next?"

In learning theory the answer to this question is called a *prompt*. The heart of corrective feedback is a good prompt.

Our Achilles heal is *verbosity*. We love to explain things. We yackety, yackety, yack, and if the kid doesn't get it, we yackety yack some more. We act as though the student had unlimited recall. Instead, just get to the point.



Remember:

- · Simplicity is clarity is brevity is memory.
- Teaching need never be more difficult than taking students from where they are to wherever you want them to be *one step at a time.*
- In order to progress, all the student needs to know is what to do next.
- Be clear. Be brief. Be gone.

The Negative Side of Corrective Feedback

Human Nature Is Biology

When everybody does the same thing in the same way, we are dealing with a behavior that has a strong biological component. No amount of training could produce that degree of uniformity. We refer to these common traits as "human nature."

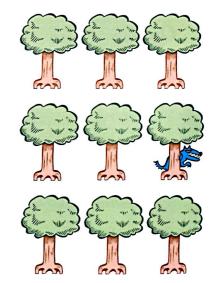
The way in which we give corrective feedback is just such a behavior. We ask, "Where are you stuck?" Then, we try to help.

In order to pinpoint the biological component in giving corrective feedback, look at the picture to the right. What catches your eye? The little blue beastie?

When we scan a pattern, our eye is captured by anything that breaks the pattern. Our brain stops and says, "What's *that* doing there?"

The Eye Finds the Error

When you look at a piece of work that is part right and part wrong, which part catches your eye – the



part that is right or the part that is wrong? During training, everyone answers, "the part that is wrong."

Let me assure you that this behavior has nothing to do with personality traits such as negativism or fault-finding. This piece of behavior is built-in.

Finding the "thing that does not belong" in the visual field has to do with survival. The thing that does not belong in the visual field may be the thing that could "eat you up."

We, therefore, filter out the familiar and focus on the unexpected. This operation takes place instantaneously.

When giving corrective feedback on a piece of schoolwork like our math problem, therefore, we scan past the part that is right – the part that matches our expectation – and *stop at the error*. Having found the error, we are now ready to give corrective feedback.

Our Emotional Response

When we see something that is surprising or upsetting, we have an emotional response – the *fight-flight reflex*. The classroom version of this response is mild compared to a life-threatening situation, but it contains the same physiological components – a tensing of muscles and a

tiny shot of adrenaline.

The *mild* version of the fight-flight reflex is called *exasperation*. Have you ever looked at a student's paper to see

the wreckage of your lesson and had a sinking feeling?

Typical Openers

What you see is what you say. If you are looking at the error and begin to speak, you will be talking about the

What pops out at such times are patterns of speech that we have been hearing all of our lives. They are so common

that we do not even stop to analyze them. I will refer to these remarks as "typical openers."

I will list five of the most common openers. But they will not sound like much – just the background noise of life.

To hear them with fresh ears, I want you to imagine that you are *failing* my class. Your self-esteem is *nil*. You are *vulnerable*.

These are the kids who really hear the openers. The strong students don't seem to mind them nearly as much. To further help you hear the message implied by these openers, I will paraphrase.

• Ask Them – Ask the student where he or she is having difficulty.

"Okay, Billy, show me where you are having your difficulty."

This hardly sounds like a hurtful message. It even sounds helpful. See how invisible these openers are? Now, let's paraphrase:

"Okay, Billy, how did you mess it up this time?"

By focusing upon the error as we try to help, we trigger one of the most frightening facets of Billy's already shaky self-concept – the thought that he just *might* be *S-T-U-P-I-D*. Upon this experience we will attempt to build learning. Lots of luck!

• Tell Them – Sometimes it is not worth asking students where they are having difficulty because they seem lost. In such cases, we usually just jump in.

"Okay, Billy, let's look here at this first problem. Yesterday, you'll remember, we were adding fractions with *like* denominators. Today the denominators are *different*. We will have to begin by finding a common denominator. Do you remember how we do that? Let's look at our example on the board."

Let's paraphrase to see how it sounds to Billy.

"Okay, Billy, let's look at the very first thing you were supposed to do today - finding the common denominator. Do you remember how to do that? Apparently not. So, let's look at my example which is on the board in front of you as plain as day."

• "Yes... But" Compliment – Wouldn't it be better if we used *praise*? Unfortunately, when you begin with the error, praise won't save you. All you get is a sugarcoated failure message known as a *yes... but compliment*. Yes... but compliments always follow the same form – *first* the good news, *then* the bad news.

"You are off to a good start, Billy. You have found your lowest common denominator. You have checked it and inserted it into the equation. Great! Now, let's look at the numerator. Do you remember what I said about "adjusting the numerator?" Let's look at step number five."

Do you want to hear it from Billy's point of view?

"Okay, Billy, you have done the first part right. We spent all day yesterday and the day before on that.

Now, I want you to look at 'adjusting the numerator.' That's the operation I tried to teach you today. Do you remember anything about it?"

It is impossible for us to interpret remarks as anything but critical when they focus upon our short-comings. You have been on the receiving end.

For example, has a supervisor ever given you feed-back after having visited your classroom? It usually begins with the "good news."

"Today, when I was in your class, I saw some real strengths that I want to share... blah, blah, blah."

You know what part is coming next, don't you? Shall we call it "Needs improvement" or "Areas of potential growth?" Why don't we just call it, "Things I didn't especially like."

S & M – "S & M" does not stand for sado-masochism.
 This is a classroom, after all. "S & M" stands for "Sighs and Moans" – the sighs and moans of martyrdom.

When we have a fight-flight reflex, even the mild one we call exasperation, muscles tense. One of these muscles is the diaphragm. We breathe in wearily. Then, after we fill our lungs, we speak.

To hear the sigh, breathe in deeply, and then gently exhale as you say,

(Sigh) "Okay, let's see here..."

or simply,

"Hmmmmm..."

The teacher may as well look to the heavens and say, "Why me, Lord?"

• Zaps and Zingers – Sometimes, as a result of repeated exasperation (particularly with the same students day after day) the thin veneer of civilization finally cracks. Frustration boils to the surface, and we "let fly."

Zaps and zingers refer to sarcasm. All sarcasm can be paraphrased as, "I don't understand how you could be so stupid!"

Let's look at some common examples in the order of increasing exasperation and imagine how they might make Billy feel.

Okay, Billy, let's go over this one more time.

Billy, we just went over this at the board!

Billy, I don't understand why you are still having difficulty with this.

Billy, I want you to pay attention this time.

Billy! Where were you ten minutes ago?

Criticism Makes People Defensive

Frankly, it does not matter which typical opener you use. They all begin the process of corrective feedback by rubbing the student's face in his or her inadequacy. Would you be surprised if the student's attitude toward learning was less than enthusiastic?

Let me ask you a question about corrective feedback that might bring it closer to home. Have you ever tried to

give "corrective feedback" to a spouse or loved one? Have you ever noticed how easily they get *defensive* no matter how you phrase it?

"Dear, you know this is for your own good..."

"Honey, I wouldn't tell you this if I didn't love you..."

These words hardly leave your lips before they begin to bristle. Corrective feedback is indeed a tricky business.

Vulnerable Students Get the Most Failure Messages

Who do you think receives corrective feedback most often, the top third of the class or the bottom third of the class? Who do you think has the lowest self-esteem, the top

third of the class or the bottom third of the class?

Students with the least self-confidence receive ten times as much corrective feedback as the top third of the class. In addition, they tend to be sensitive to failure messages, whereas, the stronger students often take them in stride.

Students begin public education with many beliefs about themselves which they bring from home. But, there is one important facet of self-concept that must be learned at school. Either I am *smart* with school work, or I am *stupid*. Giving corrective feedback in the natural, commonsense fashion will polarize this perception for any struggling student.

A New Perspective on Error

Consider the following when your eyes are drawn to the shortcomings in

a student's performance: There are a million ways to mess up anything. Each is as useless to remember as the next.

Why spend precious instructional time going over something with students that you a) don't want them to remember, and b) never want them to repeat? Not only does it make the students feel defensive, but it also overloads short-term memory with throw-away information.

Corrective Feedback in Detail

Teaching one step at a time sounds simple, but as they say in sports, "There are levels to the game." Swinging a baseball bat may seem simple until you find yourself in a slump. Then you will learn how much a good batting coach can see in that swing.

So, let's slow things down and look at corrective feedback in detail. A lot is going on both cognitively and emotionally.

Your Physical Response

When you look at a piece of work that is part right and part wrong, you will see the part that is wrong first whether you want to or not. You will also have a fight-flight reflex that may range in intensity from the imperceptible to real exasperation. The question is, "What do you do about it?"

First, take a relaxing breath. During this relaxing breath you will not be ready to formulate a plan of action. Rather, you will be mildly exasperated and focused on the error. This relaxing breath will calm you and allow time for the fight-flight reflex to come and go.

Second, take another relaxing breath. During the second relaxing breath, take a fresh look at the task. Scan the student's work with fresh eyes, and ask yourself, "What has the student done right, so far?"

Third, starting from this point, ask yourself, "What do I want the student to do next?"

Your Verbal Response

The heart of corrective feedback is the prompt which answers the question, "What do I do next?" However, there are some additional elements that you may wish to consider along with the prompt.

• Praise – The label "Praise" simply serves as a reminder to focus upon what the student has done

right so far rather than upon what the student has done wrong. Rather than being gratuitous "nice, nice talk," praise describes one or two aspects of the student's performance in simple, declarative sentences. Its purpose is to:

- focus the student's attention on that portion of their performance that is relevant to the upcoming prompt.
- review what the student has done right so far so that it is in the forefront of his or her awareness as you begin the prompt.

Let's look again at our graphic of the math problem containing an error. Which step would be the most useful to review as the bridge to teaching step seven? During training, teachers respond in unison, "Step six."



Knowing what we know about auditory memory, would it be useful to review steps one through six? Trainees respond, "No!"

Praise is most useful the *first time* you help a student. However, praise is usually superfluous the *second time* you help that student because he or she is already focused. Since praise is competing for short-term memory with the prompt, *dump* it and go straight to the prompt. The less said, the better.

 Prompt – All modalities of learning can be exploited to increase the clarity of a prompt. Prompting with

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Beware as you transition to the prompt.

the *visual* and *physical* modalities will be the subject of subsequent chapters.

For now, let's focus upon what we *say* as we begin the prompt. Beware of the following words as you transition from praise to the prompt:

- But
- However
- · Instead of

You can watch the student's face drop as you utter these words. Your attempt to help

has just become a yes... but compliment. Now the student is waiting for the other shoe to drop.

Begin the prompt with the following phrase, and you will pass through the transition safely:

"The next thing to do is..."

• Leave – When you give a student a prompt, it would be logical to check for understanding before you leave. If your instincts tell you that this would be a wise thing to do, then, by all means, do it.

But, as usual, I am preoccupied with the *helpless handraisers*. They constantly exploit corrective feedback for *attention* rather than learning. For clingers, you have to play the game differently. Leave *before* you see the student carry out the prompt.

Your instincts may tell you to check for understanding, but, with helpless handraisers, that is usually a bad idea. Leave, because, if you stay, you:

- signal that you think they may need more help
- offer your body as the reinforcer if they seek help

Make a helpless handraiser an offer like that, and you *know* what the outcome will be. Leave because you really have no choice.

Deal with your worry about this student's success by giving a more effective prompt, not by staying to check for understanding. The following chapters on the visual and physical modalities of instruction deal with more effective prompting.

Prompting Variations

Praise, Prompt, and Leave is the simple, generic pattern for giving corrective feedback. It is better to stay with this simple version at the beginning, lest you slide back into verbosity. As you become more comfortable, however, you may find the following elaborations useful.



Leave because you really have no choice.

Question Asking

Should you ever ask the student a question? Giving a simple prompt does not leave much room for dialogue. Well, sometimes it is helpful to ask a question, and sometimes it isn't.

Beware of *beginning* corrective feedback with a question. It is one of the most common ways that teachers "get started" when helping a student.

However, there are potential problems to consider when beginning corrective feedback with a question:

- It takes time Dialogue usually takes at least a minute. During that time you are not working the crowd. The predictable outcome will be time off task and noise.
- It produces verbosity The best way to guarantee that you talk for three minutes is to talk for one minute. And, of course, verbosity produces cognitive overload.
- It sets the student up for failure While there are many sophisticated questioning strategies in the literature, I rarely see them used in the classroom. Rather, I usually observe a series of *leading* questions.

Teachers often refer to this as the "Socratic method." However, most of the time leading questions are questions leading nowhere. The teacher is simply fishing. When the student fails to grasp the teacher's drift, the student feels even more stupid.

 It plays into the helpless handraisers – While some dialogue with curious students may yield rich dividends, to helpless handraisers it provides a golden opportunity to be needy. They will play it like a violin.

An alternative use of questioning is in checking for understanding *after* the prompt. The student can answer the question because you just supplied the information.

Discussion Facilitation

The skills of facilitating a group discussion are an extension of Praise, Prompt, and Leave. They enable the teacher to guide the discussion while creating a degree of safety that encourages the quiet students to talk.

Imagine that a given student's comment is mediocre—somewhat off the point or partially incorrect. Our normal focus would to be on the error. If, however, we direct attention to the student's shortcoming, we will not get any more participation from *that* student in the future. As an alternative, use the following sequence:

- Selective reinforcement Take the best and leave the rest.
- 2. Key issue Where does the student's comment lead? You get to choose. By highlighting a particular key issue, you can guide the discussion without taking it over.
- 3. Open-ended prompt Direct the key issue to the class in the form of an open-ended question. Direct it to the student who gave the mediocre response if you wish to engage him or her in idea building.
- **4. Wait time** Give time for the wheels to turn after a prompt. When you speak, you shut down student participation.

Discrimination Training

Can the teacher *ever* point out the student's error? Well, sometimes

Pointing out the error at the *beginning* of acquisition usually does more harm than good. In addition to wasting time and creating defensiveness, it strengthens the error through repetition.

The situation is reversed when the error is *already* well learned in the form of misinformation or a bad habit. In this case we must engage in *discrimination training*.

Discrimination training focuses upon discriminating *correct* from *incorrect* performance as a prelude to replacing old learning with new learning. We must place both ideas into the student's awareness simultaneously in order to contrast critical features.

Athletic coaches do this all of the time since their corrective feedback is usually triggered by seeing the athlete do something wrong. This chapter does it in order to help us discriminate the proper way of giving corrective feedback from the widespread habits of 1) tutoring students who raise their hands during Guided Practice, and 2) beginning corrective feedback by focusing on the error.

By bringing error to a conscious level, discrimination training walks a fine line with the student's emotions. If it is done skillfully, it can open the door to learning. But, if it is done poorly and arouses the student's defensiveness, it closes that door.

Painless Prompts

Initiating and Terminating Requests

As a means of getting closure on corrective feedback, consider a prompt as simply a request for behavior. There are two basic kinds of requests: *initiating* requests and *terminating* requests.

Initiating Requests

An initiating request asks a person:

- to do something
- to do something more

An initiating request is emotionally *safe* because it carries **no implied judgement**. You can ask anybody to do anything, to turn cartwheels or quack like a duck, and it carries no implication that what this person was doing previously was wrong.

Terminating Requests

A terminating request asks a person:

- · not to do something
- to do something less

A terminating request is emotionally *dangerous* because it always carries an **implied judgement**.

"Don't swing at a pitch when it's over your head!"

"How many times do I have to ask you not to leave your clothes on the floor?"

"Don't drive so fast!"

Terminating requests are natural. They are the verbal component of a fight-flight reflex. We see a problem, and we respond instinctively. Since this pattern is natural rather than learned, it is not subject to forgetting. But it makes a poor prompt because it makes the person defensive without telling him or her what to do.

Initiating requests are not natural. They represent a learned pattern that takes a lot of practice. Since this pattern is learned, it is subject to forgetting. For as long as we live, it will be easy for us to slip back into focusing on the error and giving a terminating request, especially when we are tired or upset.

Shaping

Shaping is the name given by learning theory to the basic process of instruction. Shaping is the prompting and reinforcing of successive approximations of task completion.

A given instance of corrective feedback is simply one step in the shaping process. Instruction always comes down to the same basic question: "What do I do next?"