# From Theory to Practice in Reading
by Dr. Sylvia Farnham-Diggory
Director, Reading Study Center
University of Delaware

My background has been largely in research in laboratories, but about two years ago I found myself in the startling position of being expected to put theory into practice. I was asked to take over the Reading Study Center at the University of Delaware, a clinic and training center that was established by Russell Stauffer some years ago. Stauffer was the principal designer of the language-experience approach to reading in instruction. Since his retirement in 1975, his students — especially John Pikulski, a key figure in the Houghton Mifflin reading program — and their students continued to run the *Reading Study Center* pretty much along the lines that Stauffer laid down. But now that distinguished era was coming to an end. A newcomer to the field of reading instruction, namely myself, was being asked to take over, and this newcomer didn't know how to teach reading to anybody, much less how to implement Stauffer's method. The slate was wiped clean, the whole program would have to start fresh.

What I'm going to tell you about is how I did in fact use theory to guide practice, and how valuable theory can be in this respect. With a handful of sturdy theoretical principles, you can pick your way through a maze of instructional confusions — and I think it is safe to say there is no subject more fraught with instructional confusion than reading.

I'm sure you're familiar with the fable of the blind men and the elephant. Each touched a different part of the elephant, each thought the part he touched— a toenail, a trunk, an ear— was the elephant, and arguments went on and on over the true nature of the elephant. Something of that sort has been going on with reference to the true nature of reading. A number of different people have got hold of one part of the total reading process, and each has argued that the part they examined was reading.

Figure 1- Principal components of expert reading and their interconnections
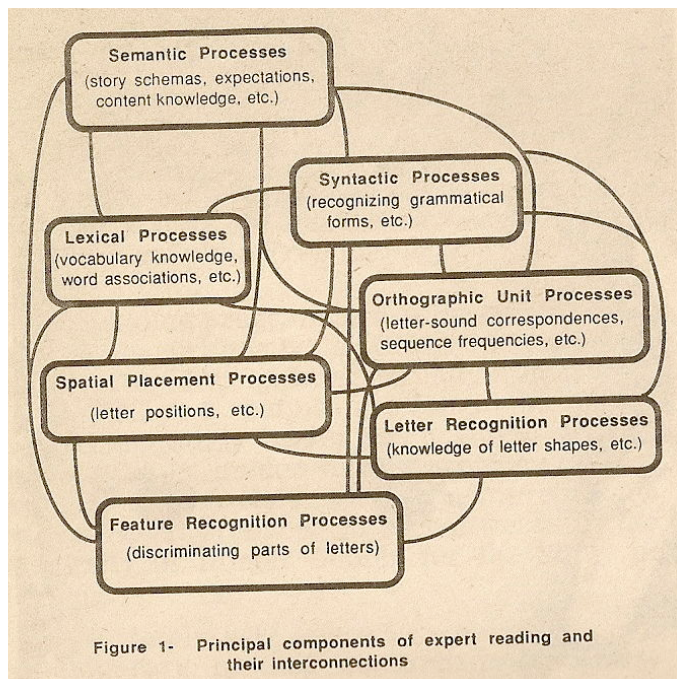
Quite recently, thanks to a new field called cognitive science,

new theories of reading have been developed which are able to represent the full complexity of the reading process. We are at last beginning to glimpse the whole elephant and to see how its different parts fit together.

Figure 1 shows a very simplified listing of the principal parts of a full theory of reading. These are some of the operations — you can think of them as **subroutines** — that go on in your head as you read. Starting at the bottom of the figure you pickup pieces of letters— vertical lines, diagonal lines, and so on. Actually, there are parts of your brain which are specialized for vertical lines, diagonal lines, horizontal lines, and curves, among other things. Those parts are activated when you look at print, even though you may not be conscious of that fact. But that's only one of the subroutines that are firing.

Moving up Figure I, you are also automatically "chunking" features into patterns, which means you are seeing letters as wholes. Those are your letter-recognition subroutines. In addition, you have spatial placement subroutines. You not only know letters, you know where particular letters are likely to be located. You know that the letter y, for example, most frequently occurs at the end of words. The part of your mind that handles spatial placement is different from the part that handles letter recognition. So you have feature recognition subroutines, letter recognition subroutines, and spatial placement subroutines that all work separately but simultaneously.

Then there are orthographic recognition processes. An orthographic unit is a letter-phoneme unit. The written letter *b* corresponds to the sound "**buh**". The written letter *m* corresponds to the sound "**mmm**". A skilled reader has a stock of those units, that's why the alphabetic principle is so efficient. It enables the reader to construct an infinite number of words from a small set of orthographic units. There is some controversy among linguists as to how many basic orthographic units there are, but linguists will nearly always agree on about 50.

In addition to orthographic units, a skilled reader knows a lot of words, and word-like units such as prefixes. When you see a set of familiar letters, your lexical subroutine matches it, as a whole pattern (if it's too long) to a memory representation of its meaning. (If it's too long, the subroutine will first break it down into manageable parts.)

You also have subroutines for handling syntax. You know about nouns and verbs. When you see the definite article you know a noun is coming, and so on.

And, of course, you have many ways of taking meaning into account. If you read mystery stories, you'll have a whole set of expectations and predictions up and running in your mind. You'll flag a character as a likely suspect, and so on.

No the important point here is that all these operations are simultaneously active as you read. You're not conscious of all of them, but they're functioning interactively and in parallel. Reading is an extremely complex skill and, like all complex skills— playing piano or basketball, ice skating— it requires the coordination of a great many sub-skills or subroutines.

Many of the arguments that have been going on about reading instruction have arisen from the misconception that only one subroutine was the entire reading process. Kenneth Goodman and Frank Smith, and that group have argued that reading is primarily a lexical process. The phonics advocates have argued that reading is primarily an orthographic process.

In fact, all these sub-routines are involved in reading, and it has never been correct to claim that only one of them is paramount.

However, as in any complex skill, this doesn't mean you teach all the sub-skills at once, by immersion. No unskilled ballet dancer dives into *Swan Lake*. A rigorous training sequence must be undertaken. To design an appropriate training sequence for the skill of reading, we need three more theories: a theory of development, a theory of learning, and a theory of instruction. In order to set up a teaching program, I must understand the nature of the growing mind, I must understand how such a mind learns, and I must understand what effective instruction is. Let's begin with development.

STAGES OF READING DEVELOPMENT (Chall)
Stage 0 – Pre-reading (pattern recognition)
Stage 1 – Discovery of Alphabet Principle (decoding)
Stage 2 – Development of Automaticity ("ungluing from print")
Stage 3 – Incorporation of Learning Subroutines.
Stage 4 – Taking Multiple Viewpoints During Reading
Stage 5 – Reading for Building & Testing Personal Theory

We all are indebted to Jeanne Chall, first for her book, *Learning to Read: The Great Debate*, and, more recently, her book on stages of reading development shown in Table 1.

As Chall has worked it out, **Stage 0** is the pre-reading stage. This is the state of those toddlers in supermarket carts who appear to be reading cereal boxes. They aren't really reading, they're recognizing patterns. Important growth is occurring in the subroutines of feature recognition, letter recognition and spatial placement – but the orthographic subroutines haven't started up yet. When they do, Chall would say the child has entered **Stage 1**, the first stage of true reading, where the child has discovered that letters represent speech sounds.

This really is a developmental phenomenon; which is to say you can't teach it until a child is ready to learn it. Orthographic readiness probably involves actual neural connections between those parts of the brain that register print, and those parts that are involved in speaking. If those connections aren't there yet, the child just doesn't "get" the idea that the letter *b* corresponds to the sound "**buh**." And even if you finally persuade the child that it does, he won't generalize the principle to other letters. Then one fine day he really catches on — and if you've ever been there when this happens, you know it's a great day, an occasion of enormous excitement for the child. That is the moment the child enters Stage 1, the first stage of true reading

Stage 2 is a fairly long period required for what Chall "ungluing from print," actually the development of automaticity in decoding. I'll have more to say about that shortly.

Stage 3, after (decoding has become automatic, refers to the onset of "reading to learn," as compared to "learning to read." As Chall describes it, this is the first science book, and first social studies book. However, only one viewpoint is presented.

Stage 4 is characterized by the ability to deal with two or more viewpoints, to read comparatively. This doesn't usually occur until high school, and then only if the teacher provides training in comparative thinking.

Stage 5 is the advanced stage that a graduate student is in when she is doing dissertation research. She is reading in order to formulate a position about something, to consolidate a set of ideas. As she reads, she is constructing a personal theory.

Now I think you can see that this is getting me closer to an instructional program. At least it's saying to me that mastery of orthographic skills is especially critical, because if you never get out of that stage, you won't develop the higher-order skills involved in **Stages 3, 4 and 5**. You'll be hung up forever just trying to decode. In addition to these developmental principles. I must also consider some basic principles of skill learning, principles that psychologists have known about for at least a hundred years.

BASIC PRINCIPLES OF SKILL LEARNING
Analytical Phase— Training in analyzing the task(s).
Practice Phase— Repetition to the point of automaticity; over-learning (practice beyond criteria).
Attention Management Phase— Controlling attention during performance; moving attention systematically.

In any type of skill acquisition, provisions have to be made for three types of mental activities. You go in and out of the phases repeatedly. Sometimes you're in an analytical phase, where you're examining what enters into the activity. In football, for example, the players have "skull sessions," in which they review videotapes. At other times, you're in a practice phase, when you practice, practice, and practice part of a task. A very important point here is that you need to practice well beyond a criterion level. It's when you finally get that piano passage right that you need to repeat it another hundred times. Psychologists call that over-learning, and it's actually programming a part of the brain called the cerebellum to carry out an action automatically.

Finally, once you have automated parts of a complex skill, you have to work out how you are going to manage attention. A golfer, for example, may think first about his shoulder, then, as the swing comes down, switch his attention to the wrist, and so on. The sports literature is full of descriptions of this type.

Now, all three phases of learning must be provided for in reading instruction as well. There must be a great deal of time allocated to analysis — analysis of print, analysis of sound patterns, analysis of meaning, analysis of syntax, and so on. And there must be huge amounts of practice. It is the practice principle with which so many reading programs seem to have lost touch. Nobody begins to give children enough practice in reading. Attention management training is also crucial: you have to learn where to put your mind when you read. Skilled readers have strategies for moving their mind from one point to another, and these strategies must be taught to novices.

So now I know that no matter what stage of reading I may be focusing upon, or what reading subroutine I may be focusing upon, I must always provide training in analysis and in attention management, and I must always arrange for large amounts of practice. I'm almost through. I need only one more set of principles — principles of effective teaching.

BASIC PRINCIPLES OF INSTRUCTION (Collins)
Modeling — the teacher shows how, thinks aloud, etc.
Coaching — the student produces, and the teacher guides, etc.
Scaffolding & Fading
    — support is provided as long as needed, then withdrawn.
Articulation
    — principals and rules are put into words by the students.
Reflection — students examine their work
        and identify principles and strategies.
Exploration
    — students plunge into new materials on their own.

For this listing, we are indebted to Allan Collins, of the *Center for the Study of Reading* at the University of Illinois. He is developing a theory of instruction which he calls cognitive *apprenticeship*, a new approach, which I hope, will eventually revolutionize schools.

A good teacher will first of all model what is to be done. She will display her own thought processes. She will decode a difficult word, to show how she approaches that problem. Think how little of this you see in most reading classes. It usually comes as a shock even to college students to discover that a professor may not understand a sentence the first time he reads it, and will have to talk to himself about that sentence. We almost never, as teachers, show how we solve problems mentally.

A good teacher also **coaches**. That is, the student does the work, and the teacher guides and prompts. You know what coaching is. **Scaffolding** refers to the type of support you give, to enable a student to approximate something he can't do by himself. Training wheels on a bicycle are an obvious example. When you read aloud with a child, you are providing a similar type of support. You are providing some of the intonation cues, some of the decoding skills that the child may not have yet, so that between the two of you, the child is experiencing a more complete form of reading. You fade out your support as soon as you can.

Articulation is a very important principle. Here, the teacher insists that the student explain and justify a procedure. It has been known for a long time in psychology that if you can state a principle in words, you'll be able to generalize it more efficiently. Further, having to articulate a principle usually forces you to discover aspects of it that you weren't fully aware of.

Reflection is surveying what has been produced, often using technologies such as videotapes. When you reflect, you try to identify key principles and features. On football videotapes, the coach will sometimes electronically trace the patterns of movements, producing a pattern on the screen that the quarterback needs to get in his head. This is a form of what Collins calls abstracted replay, which is a powerful form of reflection. Finally, good teaching involves **exploration** – pushing a student into new domains, where he is on his own, and has to find his own way about. Of course you prepare for this, but the day must come when the student takes full charge of some sort of reading project — deciding how and when to conduct a library research project, for example. I still can remember in high school being given the topic "Shakespeare's Heroines" and having to figure out for myself how to get that information.

Now let me pull all this together.

FOUR THEORIES

I. Theory of Reading
    Semantic Processes
    Syntactic Processes
    Lexical Processes
    Orthographic Processes
    Spatial Placement Processes
    Letter Recognition Processes
    Feature Discrimination Processes
(THESE PROCESSES MUST ALL WORK TOGETHER IN COORDINATED ROUTINES, OFTEN IN PARALLEL.)

II. Theory of Reading Development
    Stage 0 — Pre-reading.
    Stage 1 —Discovery of Alphabetic Principle (decoding).
    Stage 2—-Development of Automaticity (in decoding).
    Stage 3 — Incorporation of Learning Subroutines.
    Stage 4 — Taking Multiple Viewpoints During Reading.
    Stage 5 — Reading to Build & Test Personal Theory.

III. Theory of Skill Learning
    Analytical Phase.
    Practice Phase.
    Attention Management Phase.

IV. Theory of Instruction
    Modeling
    Coaching
    Scaffolding & Fading
    Articulation
    Reflection
    Exploration

To design a reading program, or to choose a reading program from among the many that exist, I need 4 theories:
    (1) a theory of reading processes;
    (2) a theory of reading development;
    (3) a theory of skill learning and
    (4) a theory of instruction.
These are summarized in Table 4. I can actually check out any reading program, or design one of my own, by reference to this list. Any good reading program should incorporate everything on this list, quite explicitly. Let me illustrate— in terms of how I set about choosing and designing programs for the *Reading Study Center*.

First, I know from a theory of reading that any program I use must give some attention to each of these components. I will want to make sure some instructional time is put into helping students develop skills in understanding the meaning of what they read, some instructional time is put into spatial placement matters — this can be especially important in a reading clinic for dyslexics — some instructional time is put into orthographic rule training, and so on. But I must never lose sight of the fact that these processes are interconnected, and that they work together, often in parallel, during reading. That means I must never teach these sub-skills within the framework of non-reading tasks, because if I do, I will just be setting up clutter and confusion. This principle is easy to see in skills like basketball.

You don't teach players how to dribble by having them practice with a yoyo. They do the real thing, on a real basketball court. The only difference is that they're not doing anything else during dribbling practice. Not until dribbling becomes automated, do they start adding on other routines, embedding dribbling in a larger task. There's just no way that yo-yo training will expedite matters.

This may sound obvious and silly, put in these terms, but it has not been obvious to the publishers of many reading work-book materials. Many can be rejected out of hand on grounds that while they are trying to teach some of these subroutines, they are teaching them within the framework of tasks that have little to do with I reading. Such workbook tasks introduce "yo-yos" at great cost to the child's understanding

of the overall reading process, so that while instructional attention should be paid to each of these components, it must always be in ways that expedite their coordination.

A second general consideration, in developing a program for the *Reading Study Center*, was the stage of reading development that most of its students would be in. Most of them, it turned out, were quite clearly in Stage 2, going on Stage 3. They needed to develop automaticity in decoding, to get unglued from print, and they also needed training in how to incorporate learning and thinking routines into the reading process.

So, armed with these two preliminary stipulations — that the *Reading Study Center's* new programs would (a) give some attention to all the components of the reading process, but (b) focus primarily on Stages 2 and 3 — I began to select and design curriculum.

I was fortunate at this point to have the guidance of a reading supervisor. Marguerite Hoerl, who had become an advocate of the Spalding method. In short order it became clear. to me that Spalding's method fully incorporated the three critical skill learning principles shown in **Table 2**. There is extensive training in analyzing print, in analyzing the nature of the sound stream of the spoken language, and in analyzing the writing process. There are enormous amounts of practice. Students cycle back, over and over again, through materials they have learned earlier. And attention management strategies are explicitly taught. There are specific routines for directing your mind through spelling and reading activities.

Instructionally, a Spalding teacher has been trained to **model** her own analytical processes; she is trained to *coach* rather than didactically preach; and she is trained in techniques of **scaffolding**. The whole curriculum is, in effect, a giant scaffold. It provides a supporting structure for dealing with print.

Articulation of principles is consistently demanded of students. They must always explain and justify their reasoning. **Reflection** is embodied in the marking system — the simple but very effective system for annotating parts of words that exemplify rules. This is the same type of abstracted replay that you find in all good skill training programs. **Exploration** is assured through the program's emphasis on literature. Both teacher and students plunge into new realms together, and many is the time I've heard teachers express surprise and relief to discover that the principles they've been teaching really do come to their rescue in literature that was never written with those principles in mind.

The Spalding method as described in the manual is primarily a **Stage 2** program, although, as Mrs. Spalding actually implements it, some **Stage 3** routines are taught. However, the *Reading Study Center* has begun to develop new materials, guided by the great amount of new information about reading comprehension that has been produced in recent years at the *University of Illinois Center for the Study of Reading*.

There simply isn't space to amplify this, but contemporary reading comprehension theory tells us that (during reading, as shown in Table 5, the reader is engaged in five main activities: she is monitoring comprehension — of words, phrases, and passages; she is making inferences and other mental connections; she is making predictions, formulating and testing hypotheses about what she is reading; she is summarizing or extracting the gist of the passages, and reorganizing the ideas into new forms, like outlines, that can serve as the basis for new tasks.

The reader is doing all of this during reading, which means we have had to work out techniques for modeling, coaching, scaffolding, and so on, as a student reads aloud. This is quite different from comprehension training activities which simply ask questions at the end of passages. We have worked out a script for online comprehension training, a script which can be used especially with expository material. We have found that many students are desperately in need of strategies for dealing with textbooks.

Five Main Comprehension Activities
Monitoring Comprehension
...of words
...of phrases
...of passages
Making Connections
...inferences
...elaborations
Making Predictions
...forming hypotheses
...expectations
Summarizing
...getting the gist
...reducing information
Re-formatting
...reorganizing ideas
...outlining

We also are in the process of working out systems for training students in writing, especially in the case of students who have reading handicaps. Their ability to produce written prose can lag far behind their ability to read.

By college, they can often read well enough to get information from textbooks, but they cannot produce a coherent written sentence. They need systematic training — analytical training, extensive practice, and attention management training — in writing. For this, we. have received a great deal of help from materials developed by Diane King, and other manuals that she recommends.

I should say a word about how we use computers. I have invented the term *computer-shared instruction* to capture the notion that a computer should do what a computer can do better than a teacher can, and a teacher should do what a teacher can do better than a computer can, and they should work together. For example, we have written a program called *CompSpell*. The student hears a word and types it. The computer won't let him make a mistake. If he types the wrong letter, the computer displays a dash, and won't let the student continue until he figures out which is correct. That means the student doesn't practice reading his own incorrect spelling. This is a major problem with most conventional methods of teaching spelling. Note that the human teacher could never be quick enough to stop individual students from writing down wrong letters, especially in a class. But in a computer class, each machine can prevent errors, and can thus share the instructional job with the teacher, from writing down wrong letters, especially in a class. But in a computer class, each machine can prevent errors, and can thus share the instructional job with the teacher. When a child does make an error, and can't figure out what was wrong, the teacher quickly assesses the situation, and coaches.

The teacher has the intelligence that the computer hasn't. It is much easier to have an intelligent human being on the scene than to try to build this intelligence into computer programs. I confess we have an experiment along those lines planned. We are going to videotape teachers coaching, and see if it may be possible to program the computer to deliver coaching statements through earphones, when particular errors on particular words appear.

We also have developed a computer program called CompWrite, in which a teacher uses a bit-pad to write letters or words which are displayed on a screen. The screen display then vanishes, and the student practices writing on the bit-pad exactly what he saw. The computer then overlays (in a different color) what the student wrote on what the teacher wrote, and the student can judge how close he came. This helps students form images which guide the production of letters, a particular problem in students with writing handicaps. Again, the teacher and the computer share skills. The teacher doesn't try to calibrate the student's work, and the computer doesn't have to understand anything about what goes into the production of written letters. (It's very difficult to program a computer to do what any literate person can easily do — recognize the same letters in many different handwritings.)

Finally, in a program called *CompRead*, we can display text at different rates — rates which fit the skill levels of readers. We can even do this on a phonogram-by-phonogram basis. You'd be surprised how helpful it is to beginning readers to have time to deal with the first phonogram before they see the second one. We're talking about very brief delays between phonogram presentations, a matter of thousandths of seconds. But that can be just enough time to give brain processes a chance to "fire," before the next set of processes has to start up. When you look at a line of print, too much information may come into your brain at once. When we present the print on the computer, we can keep that overload from happening. Again, this is something the computer can do that a teacher cannot do. What the teacher can do is prompt and coach when the child needs assistance, just as the teacher does when the child reads from a book.

Let me conclude now with some comments about motivation. In intensive skill-based programs, like the one I have been describing, you often worry, before you try them, that teachers and students alike are going to be bored stiff. But this worry arises needlessly from the misconception that rewards must be external, in the form of grades for pupils, for example, or salaries for teachers. Salaries are certainly important, but they are far from sufficient, as all burned-out teachers know. A teacher must have feelings of success from achievements she can observe on a daily basis. Similarly, although grades have their place, they can never come close to motivating students the way a sense of growing competence can.

We see, in the *Reading Study Center*, many walking wounded — many children who have been devastated by reading failures. Quite predictably, you can watch them go through five phases of personal transformation.

In **Phase I**, the child, and it's almost always a boy, comes in with jacket and hat on, which he won't take off. It can be 90° in the classroom but he won't remove his jacket or hat.

He slouches in his chair, the hat is pulled down. He could "kill" the parents who are making him come here (and whom we usually invite to observe, so they will make him stay here). That's Phase I, and we quite cheerfully ignore it.

Teaching begins with the phonogram cards, and the child somewhat incredulously passes into **Phase 2**, which is the realization that this is sort of like what he did in first grade. He's not, of course, pronouncing the phonograms beyond a bitter mutter, but he's watching and listening; this is what he did in first grade. Contempt flowers. This is baby stuff, this is for babies. "I already know how to do this."

That's the moment for the onset of **Phase 3**. I already know how to do this.... I know how to do this. I KNOW HOW TO DO THIS! I'm finally in a class where I know what to do! The hat comes off, the coat comes off, the pencils get sharpened, the voice booms.

But **Phase 4** lurks. Phase 4 is a sad phase, and in our program it is a short one, but there isn't any way of avoiding it. Phase 4 begins when the child first comes up against something he doesn't understand right away. This is inevitable, because that's the only way he can learn rules and strategies for dealing with something he doesn't understand right away. But when it first happens, a stricken look comes over the child, who is, remember, no longer hiding inside the hat and jacket. The stricken look signifies that the child is reliving all those other reading classes, where he didn't understand, and where he sank further and further into the mire. It's all going to happen again, like it always happens, he thinks, and "I'm not going to learn how to read."

But the teacher keeps going. A little coaching, a little scaffolding, and the child works his way through it. Maybe that was a fluke, a lucky guess. Next time there is a problem, he solves it again. And again.

Then – and this is, of course **Phase 5**, there comes over the child the absolutely incandescent realization that he's always going to know what to do, that this time, he's going to make it. This time, he's really going to learn how to read. And what happens then — and these are the moments we treasure — he looks you straight in the eye, and he smiles a hugely radiant smile, and you realize he never looked you in the eye before. The glance was always down and around and away. But now, you get the full beam, and you know he's on his way.

And this, let me tell you, is a child who will let nothing keep him from our classes. These are the children who make their own arrangements with us. Never mind the parents. "What's my class schedule and when does it start?" The older ones who can get to the Center by themselves drop by after school, they hang around, they volunteer to be aides. We can't get rid of them. And this is all resulting from intensive skill training, with not a yo-yo in sight.

All of the great educators have talked about the incredible motivating powers of training programs that keep students on the cutting edge of their own developing competencies. Montessori wrote eloquently about it, but I like best to quote Rousseau's deceptively simple statement: "Teach the child what is of use to the child, and you will find that it takes all his time."

end of article

Vol. 15, No. 1
26th Annual Conference
Reading Reform Foundation
San Francisco, CA
July 3-4-5, 1987

THE **READING** INFORMER
Published by the Reading Reform Foundation

OUR SOLE AIM:
TO RESTORE INTENSIVE
PHONICS TO THE TEACHING OF
READING THROUGHOUT
THE NATION

Conference Report

Dr. Sylvia Farnham-Diggory and Claire Thomas, as reflected in a mirror

Internet Publisher Note: Donald L. Potter
December 30, 2008, Odessa, TX.

I have benefited from the writings of Dr. S. Farnham-Diggory for a number of years. I read her forward to her "Preface" to the Fourth Edition of Spalding's *Writing Road to Reading* in 1998. The next year, I had the privilege of teaching Spalding's program to a group of first-graders at the Murry Fly Elementary School in Odessa, TX. I practically memorized Spalding's book before teaching the method. Dr. Farnham-Diggory has gone a long way toward explaining the features of Spalding's programs that has made it so successful since its introduction in 1957. I read her challenging and informative textbook, *Cognitive Process in Education*, in 2003. I also read her shorter work, *Schooling*, that year.

This paper was delivered at the 26th Annual Conference of the *Reading Reform Foundation* in 1987. I would like to thank Kathy Diehl for sending me two boxes of *Reading Informers* and *RRF Conference Reports*. It has been a joy to read the enlightening articles and publish those that seem particularly valuable, such as this one.

For more articles concerning the importance of phonics for beginning and remedial reading, visit my web site www.donpotter.net. There are a number of excellent phonics programs there that can be downloaded for free.

For those who like the Spalding Phonograms and wonder how they would work with other programs, I have published information on how I used them with Samuel Blumenfeld's *Alpha-Phonics*. That information as well as an mp3 file explaining the sounds is available on my web site.

Another program, which follows the many of the same principles, as Spalding, is Mr. Frank Rogers's TATRAS (*Teaching American to Read and Spell*) program, which I have used successfully in several classrooms of bilingual and regular education students.

The Riggs Institute (www.riggsinst.org) continues the Spalding tradition in a new format.

The Spalding Institute (www.spalding.org) is reputedly the "official" web site of the Spalding method. They have a new book, which updates the Spalding Writing Road to Reading. I understand the phonograms flashcards are no longer in the book. The 1990 edition is the last edition by Mrs. Spalding.

Sylvia Farnham-Diggory was born on August 16, 1927 and passed away on May 30, 2005. This essay is republished with profound respect for her remarkable contribution to the field of reading.

This document last revised, 1/17/09 and 3/2/11.

Appendix
Added 3/2/11

Donald L. Potter's Notes from S. Farnham-Diggory's "Foreword" to the 1990 Romalda and Walter Spalding's *Writing Road to Reading,* pages 9-20.

Dr. Farnham-Diggory wrote a very important "Foreword" to Spalding's *Writing Road to Reading* concerning the theoretical aspects of teaching reading with the method. It covers much the same ground as this paper she delivered at the RRF Conference.

My comments are in brackets [ ].

Teach the child what is of use to the child, Rouseau said, *and you will find that it takes all his time.*

What is of use to a child interested in reading is explicit instruction in how the written language works – how it represents the sounds of speech, how it is produced with tools like pencils and chalk, how it signifies words and ideas. A program that provides such instruction – the Spalding program – absorbs children to an astonishing degree. It does indeed take all of their time, or as much of it as teachers will allow.

This is perhaps the most impressive aspect of the Spalding program, its motivating power. This tells a psychologist like myself that Spalding has fully engaged the natural learning dispositions of the mind. We see this routinely in the child's devotion to the task of learning to talk. Learning to read by the Spalding method inspires similar devotion.

Reading ability is not, however, neurologically prewired the way the spoken language ability is. … A pervasive error in current instructional theory is that children will inductively discover the rules of written language if they are immersed in a written language environment (Ken Goodman & Yetta Goodman, 1979, Frank Smith, 1971). Children do, of course discover the rules of their spoken language through simple immersion – but that is because their brains are prewired for speech. Their brains are not prewired for reading. Left to their own inductive devices, the vast majority of children will not discover how the written language words. What they discover is that they do not understand how it works. And of course they think that it is their own fault.

[I rarely see anyone blaming the method by which the students were taught as the cause of reading failure.]

One of the most heartbreaking sights in America schools to day is that of children – once so eager to read – discovering that they are not learning now. There comes over those sparkling eyes a glaze of listless despair. We are not talking about millions and every school in the national. And the toll in young spirits is the least of it. The toll in the learning and thinking potential of our citizenry is beyond measure. (page 9)

[Working daily with children struggling to learn to read, I have often seen this glazed, listless look of despair in eyes of many of the students who come to me for help with reading.]

[Sylvia doesn't mince any words concerning the causes.] The reason for this catastrophe is straightforward: American citizens are not learning to read because they are not being taught how to read. The research evidence is unequivocal. [She then mentions *Becoming A Nation of Readers*. This report by Richards Anderson and others is available at ERIC: http://www.eric.ed.gov:80/PDFS/ED253865.pdf]

Fundamentally, the instructional disaster must be laid at the feet of the basal reading establishment, a billion-dollar industry that supplies every teacher and every pupil with a scheduled sequence of reading materials and lessons. The per-pupil cost and profits are astronomical. As in the case of many industries, the tobacco industry, for example, profits are not tied to healthful outcomes, they are tied to sales, and to anything legal that promotes sales. School systems simply switch basals, even on a statewide basis, which makes the sales game pretty exciting. But few systems have dared face the fact that none of the basals is effective. (page 10) [I personally know of no basal reading system, phonics or otherwise, that I can recommend without hesitation.]

Reading is now recognized as a *complex* skill – which means that it requires coordination of a nmber of complex skills, just as playing piano-playing or baseball does.

However, a serious theoretical error currently pervades many American systems of reading instruction. That is that phoneme-letter correspondences cannot be or should not be taught in isolation because they do not exist in isolation. [The professor goes on to explain this in detail in the next couple pages.]

The summary point at the moment is that the complex skills of reading and spelling require the coordination of a number of sub-skills, the most important being first-order skills of paring letters and phonemes, second-order sub-skills of grouping letter-phoneme units lawfully, and third-order sub-skills of thinking and learning. [Sylvia explains that theories of reading have rapidly evolved from simple stimulus-response notions have rapidly evolved over the past 15 years (counting back from 1990) to complex connectionist models. She is talking about simple linear models to complex parallel distributed processing models with independent modules running more or less simultaneously].

[On pages 13 & 14, she describes Jean Chall's "Stages of Reading Development" as they apply to teaching reading. I will list them below.]

Stage 0 – *Pre-reading Stage*: Children are essentially discovering the word of print from billboards, cereal boxes, and the like.

Stage 1 – *Recognition of Alphabetic Principle*: Letters represent speech sounds or phonemes.

Stage 2 – *Expansion and Consolidation*: Mastery of the orthographic (spelling) rules of the language to **the point of automaticity.**

Stage 3 – Beginning of higher-order learning and thinking-skill acquisition.

Stage 4 and Stage 5: Higher types of analytical and synthetic reasoning, as you compare points of view or use new information to modify a personal theory – all during the ongoing process of reading.

[On page 15 she has a very important section on "Strategy Training Needs." I had read the "Preface" many times in the past, but only recently did I clearly understand the implications of what she wrote to the situation in the first and second grade classes in the typical public school where almost all the emphasis is on "comprehension." I suggest reading these notes very carefully because they have enormous implications concerning what we should and should not be doing in the early stages of reading development.]

A large number of college students lack Stage 3 skills, not to mention the higher-order Stage 4 and Stage 5 skills that college is really about. In part, the deficiencies arise from the fact that the skills were never explicitly taught. … This is very serious and I want to make clear that my current emphasis on Stage 1 and Stage 2 training (the Spalding Program) doesn't mean that I think comprehension training is not important. The problem is that it cannot *begin* until Stage 2 decoding is automated, simply because a readers does not have available attentional capacity.

[This section merits careful reading. I often encountered well-meaning (but confused) fellow teachers who said I should spend more time on comprehension skills with my first and second-grade reading students. Notice especially the following short paragraph].   (still on page 15)

The mind "frees up" for comprehension operations only after decoding operations become automatic. If you try to teach comprehension skills before then, you generate a cycle of confusion: The attentional capacity necessary for mastering decoding will be drained by attempts to "remember the main idea," and capacity for comprehending will be simultaneously drained by decoding efforts. So neither Stage 2 nor Stage 3 mastery is achieved. This is essentially the current state of 95 percent of our seventeen-year-olds.

It is simply imperative to first consolidate and automate Stage 2 decoding skills, which is what the Spalding program does, so that you can then go on to provide explicit instruction in higher-order reading routines.

Whatever is the true success rate, it comes about because the Spalding system capitalizes on a body of psychological principles that are dead right in contemporary theoretical terms. Mrs. Spalding obviously had no way of anticipating that. Her own theoretical guidelines came from the teaching of William McCall at Teacher's College, and from Orton's views on how the brain works, and from the linguistics of the period. These theories have all been superseded in their respective fields, but the Spalding system can be recast in current theoretical frameworks because it was really derived from an intensive study of how children learn. Of course other good reading teachers have emphasized some of the same principles. In my collection of early readers is one published in 1855. It starts out with a list of phonograms, and includes a simple marking system. These ideas have been around for a long time, but it remained for Spalding to combine them and forge them into a system of stunning efficiency. (page 19)

Check out my "Vintage Reading Books" webpage for many examples of old reading programs that can teach us a lot today about to teach reading. My edition of Webster's 1824 American Spelling Book an excellent example of a reading method (Spelling books were used to teach reading.) that used numbers over letters to indicate sounds.

In the "Acknowledgement" section Dr. Diggory mentions Marguerite Horel, a reading consultant. It would be interesting to learn more about this lady who was working in the background to promote the Spalding Method.

Oma Riggs was another great Spalding advocate.

Michael Brunner taught Spalding to many teachers.

Myrna McCulloch continues to promote Oma Riggs techniques for teaching Spalding at the Riggs Institute.

The Spalding Foundation has also published a 5th Edition of the *Writing Road to Reading*.

In my opinion, Mr. Frank Rogers of Tacoma, WA, has taken Spalding to new heights of efficiency with his TATRAS program.

Spalding's principles guide much of my remedial reading work.

Notes March 4, 2011, and Revision July 21, 2011:-
This article was reformatted from Don Potter's 15 page pdf file by Earl Eugene Roth, Jr. downloaded on March 2, 2011.

A few typographical errors were corrected in the first article. In the revision, the quotes of Dr. Diggory's forward to the 4th edition of the *Writing Road to Reading* were expanded a little, including the addition of Rouseau's quote and the first paragraph in the Foreword. The dividing lines were put between quoted sections. The quote from page 11 was moved to its proper order and corrected. The last paragraph of Don's comments was divided into a number of smaller paragraphs.

You may e-mail me at generoth@mac.com with comments.