

# *Writing and Spelling Road to Reading and Thinking*

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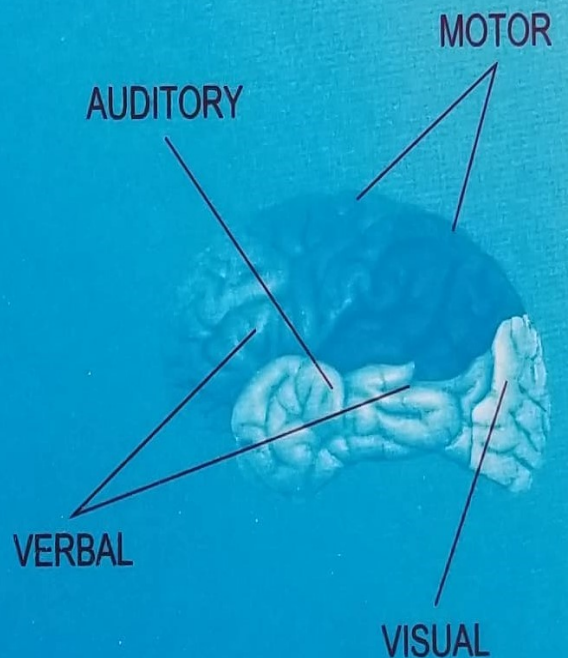
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## *Overview and Catalog*

10



A Neurolinguistic Approach to Cognitive Development and English Literacy

# THE “CADILLAC” OF ORTON-BASED METHODS

## *The Writing and Spelling Road to Reading and Thinking:*

*A Neurolinguistic Approach to Cognitive Development and English Literacy*

BEGINS WITH PHONETICS, LETTER FORMATION, SPELLING AND COGNITIVE DEVELOPMENT, THEN INTEGRATES THESE LANGUAGE “STRANDS”...

### ...for READING

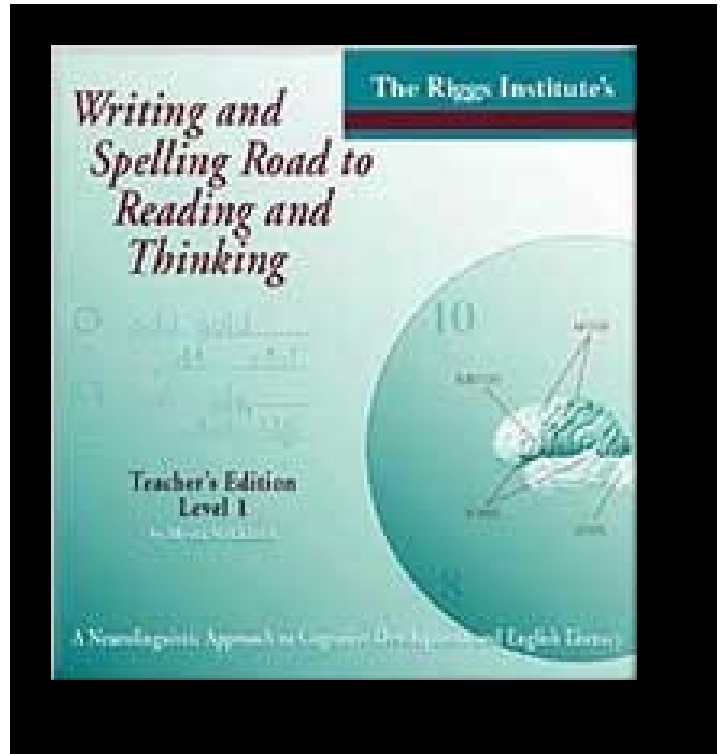
- Complete Phonetics
- Syllabication
- Oral Vocabulary
- Visual Discrimination
- Comprehension
- Phonemic/Graphemic Awareness

### ...for COMPOSITION

- Listening– Phonemic/Graphemic Awareness
- Handwriting-Complete Phonetics
- Orthography Rules

•Margins•Spacing•Spelling•Vocabulary•Grammar•Syntax•Punctuation•Capitalization

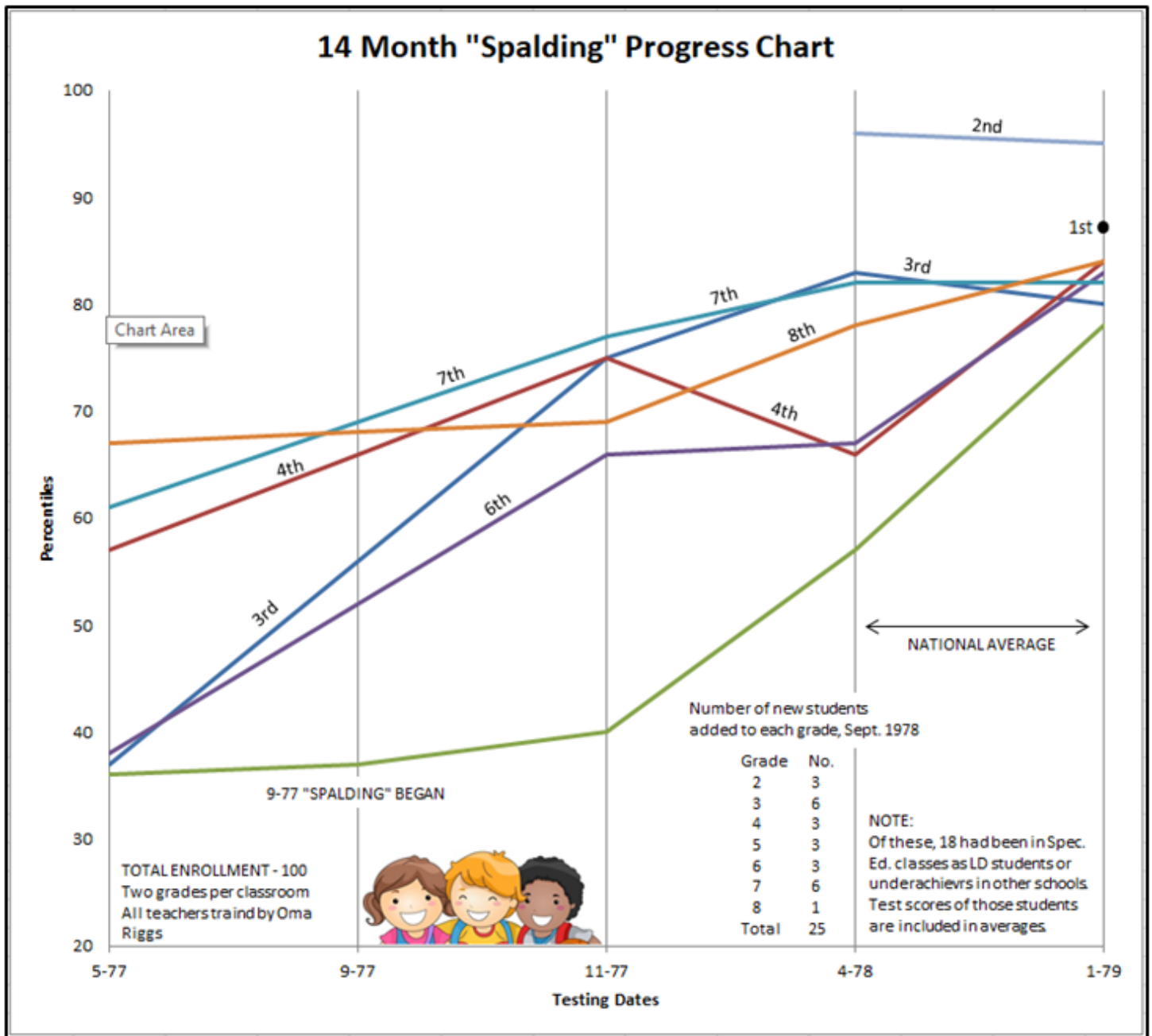
The Riggs’ founder and author of the *Writing and Spelling Road to Reading and Thinking* Myrna McCulloch’s first experience with an Orton-based method, Spalding’s *The Writing Road to Reading*—as taught by Oma Riggs—took place in a private school in a low socioeconomic area of Omaha, Nebraska in 1977-1979. Based on the student’s results as shown in the line graph on the following page, the Riggs Institute’s “Great Expectations” and brain-based approach to English literacy now fully integrates and finely sequences all language arts *strands* (shown above) as auditory, visual, verbal and motor cognition are simultaneously established using multi-sensory, direct and Socratic instructional techniques.



***The Riggs Institute*** (a non-profit agency)

21106 479th Avenue, White, South Dakota 57276

# Student results as shown in a line graph — Riggs Institute's "GREAT EXPECTATIONS"



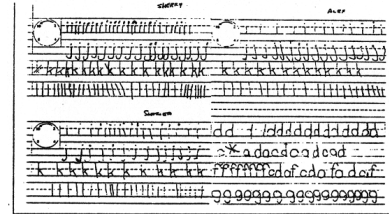
**This line graph represents composite class average improvements realized in the first 14 months.**

- 100 students; two grades per classroom.
- Teachers were newly-trained by Oma Riggs.
- Implemented the method under the direction of Myrna McCulloch.
- Students were 1/2 Latino or Afro-Americans; balance were almost all of other ethnic backgrounds.
- Grands 1 & 2, respectively, ended their 14th month at the 96th and 87th percentiles.
- Grades 3-8 increased 32.2 percentiles points, a 65.6% increase in 14 months.

# “OPTIMAL” OPPORTUNITIES and “GREAT” EXPECTATIONS PERMIT EXEMPLARY PERFORMANCE WITH AVERAGE STUDENTS!

- This is pre-kindergarten letter formation in the fifth hour of instruction; these students were enrolled in a private hour-a-day learning center in Calgary, Alberta; their teacher trained herself. Letter formation is dictated, not copied.
- Other samples are from kindergarten and first grade students.

These samples were gathered in April prior to these students' kindergarten year. These ten students all learned to write about one-half of the letters of the alphabet, concurrently with explicitly taught phonics during a one-hour session each day. The samples include their worst and best writing.



Mary learned this method in a summer school prior to her kindergarten year. Though there was no language arts instruction in school, she wrote this at midyear.

I miss you. My mommy misses you, too. I hope you like Oregon.  
I am going to buy Christmas presents for my brothers.  
I want a Strawberry Shortcake Doll from Santa.  
Tell Richard everyone loves Muffin. Timmy shares his food with her.  
I liked the apples Uncle Ray brought us. They ate so many nuts. Mommy was sure he would be sick.  
Love Mary

## PHONETICS...from beginning speech to correct spelling with rules

- English speaking six-year-olds speak and comprehend from 4,000 to 24,000 words when they enter school.
- This phonetic system begins with speech capabilities and enables most K-4 students to spell the majority of words in their spoken vocabularies by the end of Grade 2.
- The 71 revised “Orton” phonograms (come into closer and are compliant with Merriam-Webster’s Collegiate Dictionary) are the commonly-used correct spelling patterns (graphemes) of the 45 elementary sounds (phonemes) of English speech (see next page).

Mark wrote this at the end of his kindergarten year.

Dear Aunt Doni,  
I am learning how to read and write.  
I wish our baby would come soon. I want it to be a girl and name her Jennifer.  
I hope you will all come to visit us this summer.  
Did you know that I can ride a two wheel bike. I will show you if you come to see us.  
My mom told me that your birthday is Wednesday. I hope you have lots of fun with kind of presents that you get?  
I liked school a lot. My teachers name is Mrs. Williams.  
Next year, I will be in first grade. Write to me sometime.  
Love Mark

This sample is taken from the 12<sup>th</sup> week of a first grade spelling notebook, rearranged here for spacing.

hand	may	math er	have
ring	in to	three	ans
live	him	land	had
like	to day	cold	a var
kill	look	hat	must
late	did	hat	make
let	like	child	page
big	six	ice	shad
bag	boy	play	street
bob	back	see	say
bug	by	sea	come

# “EXPLICIT” PHONICS IS TAUGHT WITHOUT WORDS OR PICTURES USING MULTI-SENSORY TEACHING TECHNIQUES

THE PHONETIC CODE FOR CORRECT ENGLISH SPELLING IS A

PHONEMIC (SOUND)  
GRAPHEMIC (SYMBOL)

SYSTEM

26 LETTERS REPRESENT

45 “ELEMENTARY” SOUNDS  
SPELLED WITH

71 PHONOGRAMS

[Letters or Combinations of letters which represent one sound in a given word]

1. Students learn the unknown symbols (graphemes) for the known sounds. There are 118 combinations which spell the majority of words in K-4 oral, comprehensible vocabularies.
2. The process is rapid and accurate because the information is learned through 4 *sensory avenues* to the mind—SIGHT, SOUND, (and Kines-thetically) through VOICING and WRITING.

\*Phonograms are letters or combinations of letters which stand for one sound in a given word.

METHODOLOGIES...

- DIRECT
- SOCRATIC
- MULTI-SENSORY

SEEING 

HEARING 

SAYING 

WRITING 

ADDRESS ALL “LEARNING STYLES” AND SAVE TIME

Examples of one “sound” in words

(underlined groups of letters shown here = single sounds in these words):

fight though church batch edge eight started missed pick

By contrast, some “invented” spelling programs teach the *sound* “oo” as in food, do, dew, due, through, fruit, you and shoe as:

food doo doo doo throo froot yoo shoo

# 71 "ORTON" PHONOGRAMS USED FOR CORRECT ENGLISH

These consonant phonograms are taught in most reading methods (not "whole language" methods), but not "explicitly" as compiled research recommends.<sup>1</sup> In this method two sounds for c, g, and s are taught immediately and the q is taught with the u with which it is always written. Only the sounds are dictated as the letter(s) are written; the "key" is for teachers only to determine the correct pronunciation which can vary from area to area.

b (bat) c (cat, cent) d (dog)  
f (fat) g (got, gem) h (hot)  
j (job) k (keg) l (lid) m (mop)  
n (no) p (put) qu (quit) r (run)  
s (sit, is) t (top) v (vase) w (wet)  
x (box) y (yet) z (zip)

---

Next are the vowels. The multiple sounds are not taught soon enough in most methods. Vowels are taught in the order of the frequency of their use in words as shown in the sample words. Third sound of i and the fourth sounds of a, o and u are needed early for both spelling and reading of simple words. Note: y takes the place of i for spelling and is used both as a vowel and a consonant

a (at, ate, want, talk) e (end, we)  
i (it, final, radio)  
o (dot, open, do, cost)  
u (up, music, truly, put)  
y (myth, my, baby)

---

These combinations are not consistently taught in most methods though they are needed for spelling. Very often the letter r has been taught as "er" and "ruh" which is incorrect. Spelling errors and students with poor phonemic awareness abilities are the result. Key words **are** taught with this group since it is the only way to designate the phonogram.

er [the er of] (her) ir (first) ur (nurse) wor (works) ear (early)  
oa [the o of] boat, oe (toe)

---

These pairs are taught to illustrate their use in spellings, generally at the end of words and in the roots:

ay (pay) ai (paid)  
oy (boy) oi (boil)  
aw (law) au (fault)  
ew (grew, few) eu (neutral, feud)  
ey (they, money) ei (veil, receive)

---

The common spellings of the sounds, "sh" and "zh" are needed early for correct spelling:

sh [used at the beginning of a word (shut), at the end of a syllable (push) but not at the beginning of most syllables after the first one (nation), except for the ending "ship" (worship)];

ti (nation, equation) si (session, vision)

ci (special)

[used at the beginning of syllables after the first one]

ch (chef), ce (ocean) and ss (session) are unusual spellings of the "sh" sound.

The next group are 2, 3 & 4-letter spellings of sounds more commonly represented by one letter. Children can fail to learn to read and/or spell because they don't know these alternative spelling patterns.

ck (neck) 2-letter "k"  
dge (edge) 3-letter "j"  
tch (catch) 3-letter "ch"  
[all used after a single vowel which says ä, ë, ĭ, ö, ů]  
kn (knee) 2-letter "n" [used to begin a word]  
gn (reign, gnaw) 2-letter "n" [used to begin and end a word]  
ee (feel) [ē double ē always says ē]  
igh (high) 3-letter ī  
eigh (eight) 4-letter ā  
wr (write) 2-letter "r"  
ph (phone) 2-letter "f"

---

These phonograms are rarely taught systematically, or with multiple sounds, but are essential phonetic information for spelling and reading. The multiple sounds are taught, generally, in the order of their frequency of use in English words:

ow (now, low)  
ou (out, four, you, touch)  
ui (fruit, guide, build)  
ng (ring) ch (chin, echo, chef)  
ea (eat, head, break) wh (when)  
ed (started, loved, missed) [past tense ending]  
ie (field, pie) ar (far)  
oo (boot, foot, floor)  
ey (they, key) or (for)  
th (think, this)  
ough (though, through, rough, cough, thought, bough)

<sup>1</sup>Anderson, R., et al. (1985) *Becoming a Nation of Readers*, Riggs Institute Press, White South Dakota [originally from Center for the Study of Reading, U of Illinois, Champaign

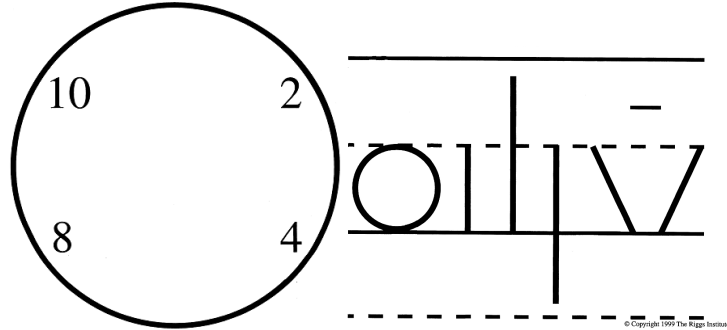
- 55 of these phonograms are taught, simultaneously with letter formation, four (4) per day, in the first three (3) weeks of Grade 1 (or at half pace in kindergarten), and are then applied in dictated spelling lessons of the 2800 most commonly used words over a four-year period of time.



# TEACHING HANDWRITING, TOGETHER WITH THE CORRECT SPELLING PATTERNS OF ENGLISH SPEECH, SAVES TIME AND QUICKLY ESTABLISHES ESSENTIAL COGNITIVE SKILLS

User-friendly teaching aids simplify the process. Letters are made with only 7 strokes as shown here. Dotted-line paper and the numbers: 2, 10, 8 and 4 on the clock face form the eight reference points which are touched as the letters are formed. Spacing and margins are stressed (for composition later) as students also acquire cognitive skills in:

- LISTENING
- SPATIAL RELATIONSHIPS
- AUDITORY AND VISUAL DISCRIMINATION
- SEQUENCING
- MEMORY
- ASSOCIATION
- ARTICULATION
- INFLECTION
- TONE AND RHYTHM



Clock face with 2, 10, 8 and 4  
'on-the-clock' checkpoints

Student/teacher dialogue (in red print on actual cards) on the backs of the phonogram cards ensures use of multi-sensory instruction and facilitates handwriting instruction. Both letter forms (manuscript and book print) are shown on card fronts to smooth the transition from writing and spelling to reading. The teacher may want to cover the book print form while teaching letter formation. The many teacher tips at the bottom of the cards are designed to help the user understand the English orthography system.

## "EXPLICIT" PHONICS TEACHES THESE 71 PHONOGRAMS

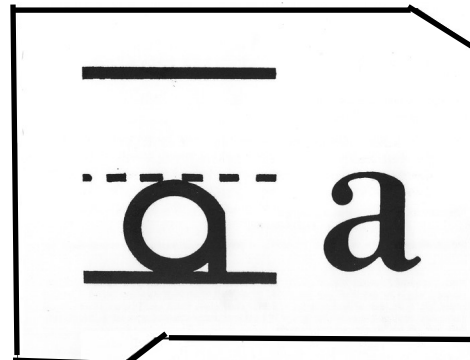
\* "IN ISOLATION" WITHOUT...

- KEY WORDS
- PICTURES
- CAPITAL LETTERS
- LETTER NAMES

Neurological interference to learning the sound/symbol relationships quickly & easily.

*\*Becoming a Nation of Readers*

*\*Explicit phonics produces better results and implicit phonics*



**a** 1.

at - tape - want - talk

'ă' - 'ā' - 'ah' - 'aw'

**SOUND KEY FOR TEACHERS:**  
[do not teach key words to students]

**TEACHER SHOWS CARD AND SAYS:**  
[then forms the letter, while saying]

*/a/ is a short clock letter; start at '2 on the clock'; go up to touch the dots and round toward the circle hand; touch 10, and go down past 8 to set your letter on the base line; curve up past 4 to 2 and, without lifting your pencil, pull a line down to the base line.*

**TEACHER WROTE:** a [now erases it, and says] "Say with me, 'ă' - 'ā' - 'ah' - 'aw'."  
[and repeats above instructions]

**STUDENTS SAY:** 'ă' - 'ā' - 'ah' - 'aw' [listen, and write the phonogram from dictation] a

Note: The vowel a has four 'voiced' sounds. The first sound is short within a closed syllable [bat]; the second is long at the end of an open syllable [ba by] and with silent final e patterns [name]. The third sound, 'ah,' is the same as the first sound of the /ol/ phonogram, and is used in many primary words [want, soda, tuna, idea, banana]; 'aw' is now Webster's preferred pronunciation for words like: all, talk, balk, ball, tall, etc. We use a staccato rhythm.

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# THE 'SPELLING' CONNECTION

***THIS LANGUAGE ARTS METHOD, BEGINNING WITH PHONETICS AND CORRECT SPELLING, IS UNIQUE FROM OTHER METHODS IN THE FOLLOWING WAYS...***

1. It begins early; formal spelling, taught through phonetic analysis, 47 spelling, plural and syllabication rules and a mnemonic (memory device) marking system, begins in Week 4. It precedes reading instruction, though all spelling words are read and used in oral sentences.
2. It further establishes phonemic and graphemic awareness through the direct, Socratic instruction used in dictation. The spelling word is pronounced, used in a correct sentence and then the question: "What is the first sound you hear in \_\_\_\_? Two-syllable words are introduced quickly, and the first question is "How many syllables?" followed by, "What is the first syllable?" "What is the first sound?" etc. "What phonogram will we use?" Whole group responses save time, command attention, and enhance memory.
3. It uses 47 rules (some of which are on the next page) taught by application, not by rote, as they are needed in the spelling-vocabulary list. Plurals are included in the first few weeks.
4. It teaches a "sight" vocabulary by sounding, blending and reading six spelling words per day, from 4th week, in isolation to bring the automaticity necessary to "free the mind" for comprehension. This sight vocabulary is learned through phonetic analysis and the application of the orthographic rules, not whole word memorization.
5. It teaches...
  - a. It addresses the "schwa" (the "uh" sound often used to say vowels a, e, i and o, in unstressed syllables) by teaching syllable stress.
  - b. Around various regional pronunciations by stressing "think to spell correctly" versus what we sometimes hear or say in the rhythm of English speech. Worldwide, spellings are relatively uniform whereas speech is very diverse; there are more than 250 nuances of sounds in all the dialects of English. Correct spellings also "map" directly to book print for reading.

## **AN IMPORTANT DIFFERENCE!**

**Each Letter of a Consonant Blend  
Retains its Own Sound Value  
Even When "Blended"**

**Hundreds of these combinations:**

**str, ld, bl, pr, nd, mp, sl, rm, etc. are *not* taught as phoneme/grapheme representations in this program; this avoids the loss of phonemic and graphemic awareness.**

**Blends are practiced and master during the dictated, Socratic spelling process instead.**

# USE OF RULES

*Of a total of 47 rules of spelling, plurals, syllabication, apostrophes and capitalization in the method, here are a few examples :*

## [Consonant Rules 5 and 6]

pack, peck, pick, pock, puck

badge, edge, ridge, lodge, fudge

Use of short vowels before 2-letter 'k' and 3-letter 'j'

5. Two-letter 'k' (**ck**) is used only after the single short of soft sound of **a, e, i, o** and **u**.
6. Three-letter 'j' (**dge**) is used only after a single or short sound of **a, e, i, o** and **u**.

## [Consonant Rules 10 and 11]

shut push nation session chic special

10. **sh** is used to say 'sh' at the beginning of a word, at the end of a syllable but not at the beginning of most syllables after the first one—except for the ending *ship*.
11. **ti, si,** and **ci** are used to say 'sh' at the beginning of any syllable after the first one.

## [Vowel Rules 13, 14, 15 and 16]

same me old my final

( Represent the 3 ways that vowels usually say their names)

13. Vowels **a, e, i, o** and **u** usually say long **a, e, i, o** and **u** at the end of a syllable.
14. Vowels **i** and **o** may say long **i** and **o** when followed by two consonants.
15. Vowel **i** and **y** may say short **i** at the end of a syllable, but usually say long **e** or **i**.
16. Vowel **y**, not **i** is used at the end of English words.

## [Silent Final e Vowel Rule 20]

1. Silent e makes the a say 'ā': n a m e
2. English words do not end with u or v; we need a silent final e: res cue have
3. Silent e lets c and g say the soft sounds 's' and 'j' in: ch a n c e c h a r g e
4. Every written syllable must have a vowel: l i t t l e
5. The 'no job e' —kids love this kind! are house horse

**Silent final e's** are needed in the following ways: Silent final e lets the preceding vowel say its name or long sound; English words do not end with **u** or **v**; silent **e** lets **c** and **g** say their second 'unvoiced' sounds; English syllables must have a written vowel; and "no job e's" where words say the same thing with or without the silent e.

## [Plural Rules 30 and 32]

foxes bushes bosses bunches puppy/puppies baby/babies

30. Nouns ending with **s, x, z, ch** or **sh** form their plurals by adding **-es**.
32. Nouns ending in **y** after a consonant form their plurals by changing **y** to **i** and adding **-es**.



# SUMMARY OF HOW INSTRUCTION PROGRESSES

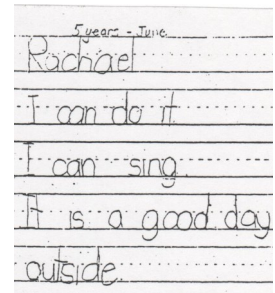
*Students are read to daily from the beginning and practice phonemic awareness with poetry and nursery rhymes.*

**WEEKS 1, 2, 3** - We teach letter formation and the first 55 phonograms, 4 per day (K, 2/day). Students learn listening, precise speech, margins, spacing, paper/pencil position, proper posture, auditory and visual discrimination and processing, comparative analysis, spatial relationships, directionality, language of instruction (vocabulary), comprehension, spelling, reading (of phonograms), and many other cognitive sub-skills.

**WEEK 4** - Begin spelling from dictation of spoken sounds; and the application of rules: 6 words per day, 30 per week. Children write from dictation and direct instruction, dictate words back to the teacher, learn the Riggs' mnemonic marking system, and spelling rules by application in the words (not by rote memorization), then "read" the words, in isolation, by sounding, blending and practicing until a sight vocabulary is established. Again, this is necessary to *free the mind* for comprehension.

**WEEKS 5 & 6** - Students begin oral sentences (their teacher has been modeling these from the beginning). Students volunteer to use spelling words in correct and complete oral sentences of their own choosing. This prepares them for early creative composition. Any grammar errors are discussed, illustrations of any grammar correction are then made by the teacher using oral instructions. Students continue to review the first 55 phonograms.

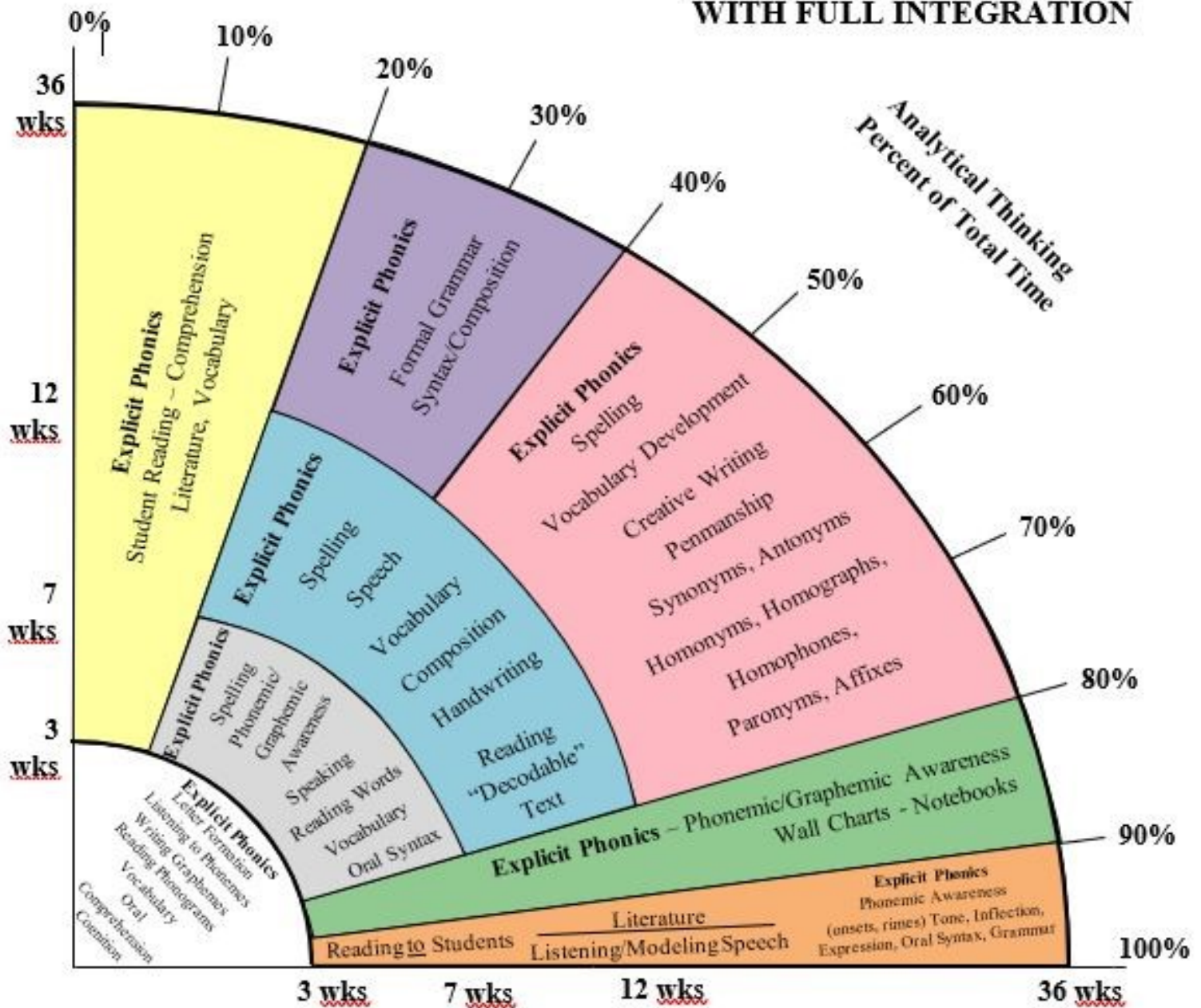
**WEEKS 7 & 8** - Oral sentences continue. Written sentences begin (See typical examples shown here). Only correct spelling is accepted. Decodable text *is* a critical component in the emergent reader's development. Their written sentences will be very simple and *must* be written by the students to ensure that their first reading experience is successful. This is their first individually "decodable" text. No one can select text that will be *decodable* by everyone in the classroom. Student sentences are read daily. The young authors are celebrated, so much clapping takes place. Children begin to appreciate books. Teachers continue to read to their students daily to increase their vocabularies and to pique their interest in quality literature.



**WEEK 9** - We teach the remaining 16 phonograms (4/day); Children begin to read simple books. Students now...

1. Have at least 180 words in their spelling notebook which they have written from dictation (not copied), syllabicated, spelled, read and used in correct oral and written sentences. Potential "reading" abilities now include hundreds more words which are made up of the very same spelling patterns.
2. Have learned the complete phonetic structure to spell their oral vocabulary through 4th grade levels.
3. Are introduced to simple syntax, capitalization, punctuation and grammar principles and are using them.
4. Can apply 14 (of 47) spelling rules by learning them through repeated application in words.
5. Know five reasons for silent final e's
6. Have begun to use wall charts (for independent work) which are their first resource material and which illustrate the material they have learned
7. Have learned the process of analysis by analyzing the structure of the words they are writing, spelling and reading.
8. Are ready to continue into quality literature and creative composition.
9. Maintain their own work portfolios, select what of their work will be posted on "their" bulletin board space, and love what they are doing.
10. Have high self esteem acquired through accomplishment.

## TEACHING THE “STRANDS” OF ENGLISH WITH FULL INTEGRATION



This chart points out the reason for, and value of, early and concentrated teaching of the explicit phonetic base needed for correct spelling. Taught in tandem with dictated letter formation, multi-sensory, direct and Socratic instruction builds the auditory, verbal, visual, and motor cognition needed to “wire” the brain for higher-level analytical and inferential thinking skills (see Kids’ Brainpower article on the previous page). As the chart shows, the instruction undertaken in the first three weeks is necessary to, and permeates, the content and quality of all other language “strands.”

The 160 Daily Lesson Objectives (academic and measurable outcomes) on the next two pages are a year-long road map to an adventure in learning for you and your students. Two, one-page overviews of learning activities are included; one is on the reverse of the previous tab page and the other can be found on the reverse of the tab page for Lesson 81 – 90.

## BACKGROUND, RESEARCH & HISTORICAL PERSPECTIVE

**Dr. Samuel T. Orton**, a renowned neuropathologist, spent 25 years in clinical research studying how the human brain functions in learning language. He began in 1923, and published a book *Reading and Speech Problems in Children* (1937). The well-known Orton-Gillingham and Slingerland methods both derived from his early research with brain damaged children and adults. School psychologist Nina Traub also authored *The Recipe for Reading* based on his work.

**Romalda Spalding**, and other teachers trained during the first three decades of this century, worked under Orton's close supervision, bringing with them their own knowledge of the English orthographic system which was regularly taught in Colleges of Education and to students in public schools prior to *Dick and Jane*. In 1957 Mrs. Spalding used Dr. Orton's multi-sensory and direct instructional methods, the **Leonard P. Ayres** list of commonly used words, a diacritical marking system from a very early speller (1836), and orthography rules from **Dr. William McCall's** spelling texts (1910-1925) for her *Writing Road to Reading* (WRTR), the first Orton-based text for primary-level, mainstreamed students.

**Oma Riggs**, for whom The Riggs Institute is named, learned the method under multiple "Spalding" trainings beginning in 1960. After teaching children and teachers for 17 years, Miss Riggs trained Myrna McCulloch, and her inner city school staff (1977). This included grammar, vocabulary development and composition—in, quite probably, the first fully integrated English "whole" language arts method.

**Myrna McCulloch successfully administered this program for two years (See Page 3, Great Expectations) prior to founding the non profit Riggs Institute (1979) to make others aware of its neurologically sound and content-rich potential. Drawing on her own 22 years experience and the experience of thousands of Riggs' affiliated teachers, she published *The Writing and Spelling Road to Reading and Thinking*, a fully integrated approach to teaching with chronologically arranged daily lesson plans.**

# Phonetics - Spelling - Whole Language: How We Put Them Together for the Best of Both Worlds

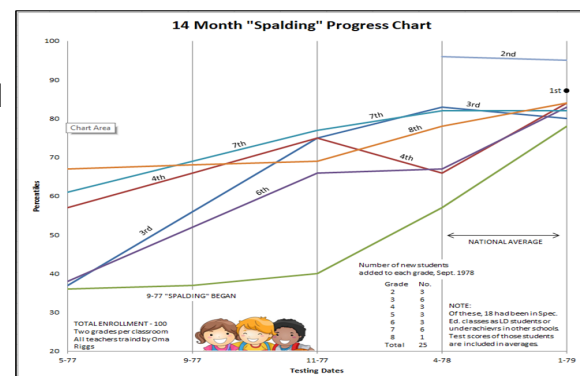
by Myrna T McCulloch

**Editor's note:** In 1999, The Riggs Institute revised the phonograms to bring them into somewhat closer compliance with Merriam-Webster's Collegiate Edition and added plural and syllabication rules. The links used will reflect. ~Myrna T. McCulloch

Numerous research articles in recent years have examined the merits of phonics instruction versus a "whole language" or integrated approach to teaching language skills to primary students. Indeed "the great debate" has grown increasingly shrill and pointedly insistent that the two theories must remain mutually exclusive. Only more recently a few researchers and synthesizers of research have suggested that at least portions of these two approaches to reading instruction could, and probably should, be combined for the ultimate advantage of the student. Our proposition here is to show precisely how this can be accomplished even with-in the ever-decreasing availability of instructional time in today's busy classrooms. I have chosen a question and answer format for clarity, practicality and conservation of space.

## Q. Why do you believe these two seemingly divergent theories of reading instruction can successfully be combined?

**A.** First, because it makes sense to be certain that all students acquire the information that they need to accomplish the work expected of them. Whole language programs do make serious demands. Adding basic skills, including phonics, simply adds to the probability of realizing the defined goals of whole language programs for every student; it does not change those goals. Second, because I have had personal experience in administering such a program for primary and remedial instruction in an inner city, minority-populated student body. Composite class averages, grades 3 through 8, were raised approximately 32.2 percentile points, a 65.6% increase, in the first 14 months of such instruction (see the line graph chart below). Grades 1 and 2 ended that period, respectively, at the 87th & 96th percentiles. The classic "Orton" method, *The Writing Road to Reading* (Spalding, R. & W., 1957, 1991), was implemented in what could be called a whole language program although we did not call it "whole language" at that time but rather, "integrated" language arts. We wanted students able to read with comprehension, write creatively and think, but also possess specific basic skills: the complete phonetic code for correct spelling, the ability to write legibly, spell correctly and analyze, for grammatical content, what they had written. We took an additional 18 students at the beginning of our second year. These students had been diagnosed with various types of learning disorders in other schools, both public and private. Unlike most special education students, we gave them standardized tests and the scores were averaged in. Language and reading scores were somewhat higher than these composite averages. We operated under the thesis that if language skills could be improved, other subjects would also follow. We still believe general educational reform must begin with improvements in language skills if it is to be effective.



## Q. When you added phonetics to whole language, how did you know what phonics to teach or when and how to teach it?

**A.** There was no research at the time to help us. Since the most well-known compiled research (Anderson, et al, 1985 and Adams, M. J., 1991) still fails to define the precise subject of "the great debate" -- what kind of phonics is under discussion. [See "Orton" Phonograms below] The use of this system has been widely shown (empirically), to enable most K-4 students to correctly encode (spell) the vast majority of words which they can speak and understand. I submit that a student's ability to "encode" is the missing prerequisite for success in the early composition work required of whole language students. Correct spelling, from the outset, without sacrificing creativity, takes on even greater significance for teaching phonetics, with rules, when one realizes that primary-level spoken and understandable vocabularies range from 4,000 to 24,000 words (Chall, J. 1967, Seashore, R., 1940). We must enable children to use their entire spoken vocabularies to encode words they understand as quickly as possible. These skills free them for real creativity.

### Glossary As Used In This Method Of Instruction:

**Phonogram** - Is a combination of phoneme and grapheme. When these phonograms are spoken, they are phonemes; when they are written, they are graphemes.

**Phoneme (sound/s)** - An elementary sound of English speech.

**"Elementary" Sound** - One which cannot be further divided (these are never blends such as str, bl, or nd which simply combine two or more elementary sounds).

**Grapheme (letter/s)** - A written symbol (letter or letters) which represent a phoneme on paper, i.e., the phoneme /oo/ is commonly written with food, do, dew, due, fruit, through, you, shoe, neutral, two, lieu

Since spellings are considerably more uniform than are pronunciations throughout the English-speaking world, I have arranged this phonetic chart with key words; these key words are not taught to students with the phonograms but to show the need and applications for correct spellings.

The following consonant phonograms were **formerly** taught in most basal reading methods though they were not taught "explicitly" as compiled research (*BNR*) has recommended since 1985. In this method, two sounds for the consonants c, g and s are taught immediately and q is taught with u with which it is always used. Only the sound/s (phonemes) are dictated as the letter/s (graphemes) for them are written. Students **see, hear, say** and **write** these phonograms (letter/sound combinations) using multi-sensory instruction to address all "learning styles."

The key words shown here are for the teacher to determine the correct sounds only; key words, pictures, upper case letters and letter names are **never** used to teach "explicit" phonics:

**b** (bat) **c** (cat, cent) **d** (dog) **f** (fed) **g** (got, gentle) **h** (hot) **j** (jog) **k** (keg) **l** (lid) **m** (mop) **n** (no) **p** (put)

**qu** (quit) **r** (run) **s** (sit, days) **t** (top) **v** (vase) **w** (wag) **x** (box) **y** (yet) **z** (zip)

Next are the vowels. The multiple phonemes (sounds) as shown in the key words are taught immediately and together, i.e., the letter a becomes aaah, long a, ah and aw. Generally, the sounds of all the phonograms are taught in the order of their frequency of use in English. The third sound of i and the fourth sounds of a, o, and u are needed early for both spelling and reading of simple words. Note: Vowel y takes the place of i for spelling, and is used as both a vowel and a consonant:

**a** (at, ate, want, talk) **e** (end, we) **i** (it, silent, radio) **o** (dot, open, do, cost)  
**u** (up, music, blue, put) **y** (myth, my, baby)

These common combinations are not consistently taught in most methods though they are needed for correct spelling. Very often the letter, 'r' is taught as 'er' or 'ruh' which is incorrect. Spelling errors, poor auditory discrimination/processing and impaired phonemic awareness are already common, but seriously deteriorate by mispronouncing the 45 elementary phonemes as they are taught. The key words **are** taught only with this group since it is the only way to designate which grapheme is meant:

**er** [the er of] (her) **ur** (nurse) **ir** (first) **or** (works) **ear** (early)  
**oa** [the o of] (boat) **oe** (toe)

This grouping is taught in pairs (top to bottom listing) to illustrate their uses for spelling:

**ay** (pay) **oy** (boy) **aw** (law) **ew** (grew, few) **ey** (they, key) [used at the end of words] **ai** (paid)  
**oi** (boil) **au** (fault) **eu** (neutral, feud) **ei** (veil, receive) [not used at the end of words]

The common spellings of sounds - 'sh' and 'zh'- are taught before the tenth week of instruction in this method:

**sh** [used at the beginning of a word (**shut**), at the end of a syllable (**push**) but *not* at the beginning of any syllable after the first one (**na tion**) except for the ending 'ship.' (**friendship**).]

**ti** (nation) **si** (session, vision) **ci** (special)

[all used to spell 'sh' or 'zh' (session, equation) at the beginning of any syllable after the first one].

The next group are 2, 3 and 4-letter spellings of sounds more commonly represented by only one letter. Children can fail to learn to read or spell because they don't know these very commonly used alternate spelling patterns:

**ck** (neck) 2-letter 'k' **dge** (badge) 3-letter 'j' **tch** (catch) 3-letter 'ch'

[all used after a single vowel which says the short sound of a, e, i, o, u.]

**kn** (knee) 2-letter 'n' [used to begin a word] **gn** (reign, gnaw) [used to begin & end a word]  
**ee** (feel) e - double e says 'e' **igh** (high) 3-letter 'i' **eigh** (eight) 4-letter 'a' **wr** (write) 2-letter 'r'  
**ph** (phone) 2-letter 'f'

These phonograms are rarely taught and practiced but are essential phonetic information for accurate spelling and fluent reading. Again, each sound is illustrated here in the order of its frequency of use, using this spelling pattern, in English words.

**ow** (now, low)

**ng** (ring)

**ar** (far)

**wh** (when)

**or** (for)

**th** (think, this)

**ea** (eat, head, break)

**ie** (field, pie)

**oo** (boot, foot, floor)

**ough** (though, through, rough, cough, thought, bough)

**ch** (chin, school, chef)

**ou** (out, four, you, country)

**ed** (started, loved, missed) [ past tense ending]

**ui** (fruit, guide, build)

### TEACHING HINTS:

Teach the sound/s as they are given in the key words, in the order shown, and with any listed instructions. It is not necessary to teach letter *names* at this point since they are not heard in English speech except for (sometimes) the vowels. At first, you are trying to establish the unknown symbols (letters) for the known sound/s children have been using in conversation. We sound, 'k' 'ă' 't' for 'cat' - not 'see-a-tee.'

The compiled research in *Becoming a Nation of Readers* (BNR) states that phonics instruction, preferably, "should be completed by the end of grade two." Our experience, and considerable empirical evidence, has shown that it is both practical and possible to do this even sooner if a multi-sensory teaching technique is used to teach the sound/symbol relationships "explicitly" as BNR also favors. This can be done in a few short weeks in a "reading readiness" (or handwriting, phonetics, spelling) phase before students are expected to read from either classic literature or the newer, vocabulary-rich whole language texts.

### Q. What is meant by "explicit" phonics and please describe your application of this teaching strategy in teaching the phonograms?

**A.** "Explicit" refers to the how and when of phonics instruction, not the what and why. It simply means to teach the sound/symbol relationships, in isolation, first, then apply these learned relationships to words. We do this by beginning with the students' facility with speech when they enter school [English-speaking students are already saying the 45 sounds of English speech in their daily conversation]. To speed the process and ensure mastery for all students, we use multi-sensory instruction to teach the 71 phonograms [phonograms are letters and combinations of letters which stand for one sound in any given word]. For example, the word *light* has five letters but only three voiced sounds - 'l' 'ī' 't' - because igh has but one voiced sound though it is three letters. Stressing acute listening skills, we teach each phonogram in isolation (explicitly, as previously described), without key words or pictures. A card, which has **igh** printed on it, is held up; the students **SEE** the printed symbol and the teacher **SAYS**, "This is 'ī' i- 3-letter i"; the students **HEAR** this and repeat (**SAY**) the sound/s aloud; ' ī 3-letter i.' and then **WRITE** its symbol - **igh**. They thus learn the information through four avenues into their minds: **SIGHT**, **SOUND**, and, kinesthetically, through **VOICING**, and **WRITING**. Sight and sound perception and kinesthetic/tactile writing and speaking reinforce each other. They have been taught through their stronger avenues which, *simultaneously*, remedies any weaker avenues. Children who experience any difficulty are placed in the front row, immediately in front of the teacher's teaching station. Erasers are removed from pencils for quality control to ensure that the teacher knows what mistakes these students are making and can therefore help them to correct their difficulties.

### **Q. Isn't it difficult to teach both handwriting and the sounds together?**

**A.** On the contrary, it saves enormous amounts of time and is beneficial for the student's cognitive development which in-turn encourages children and parents because it shows how much can be accomplished in a relatively short time. On the first day, we begin practicing the seven letter strokes (with which all letters are made) along with learning the position of the eight reference points: 2, 10, 8, and 4 on a clock face with a base line, top line and two dotted-middle lines. These seven strokes, a circle, and 6 lines, are practiced, and then, both the sounds and symbols for the letters of the alphabet are taught using detailed, dictated instructions to "touch the checkpoints." Listening, processing, proper seating, pencil holding and correct paper positions, directionality, spacing and margins are stressed, thus students develop excellent listening skills and quickly learn margins and proper spacing for the words which they will need very soon for early composition work. This is done through dictation, listening and writing, not copying or tracing. To save time and frustration for both teacher and student, and establish correct neurological patterning, nothing is taught which must be untaught or re-taught later.

Fifty-five of the 71 phonograms are taught in the first three weeks, an average of four each day. Students are learning the "print symbols" (letters) for the sounds they have put into words they regularly and routinely pronounce and understand long before they enter school. Letter names are *not* taught at this stage since they are not heard in speech, with the exception, of, sometimes, the vowels. We prepare students for the next phase which is to begin the spelling of 1700 of the most commonly used English words.

### **Q. Why teach spelling first and why does this particular organization of phonetics work for accuracy in spelling?**

**A.** Spelling is more difficult than reading because the letters (and applicable phonograms) must be called up from a memory base (the sound/symbol relationships previously learned); our phonetic linguistic base, and the application of 28 rules, is much more exacting *and reliable* than a simpler phonics approach for the pronunciation of words which are already on pre-written on paper and worksheets. Regardless of results of *memorized* weekly spelling tests, this sound/symbol (phonemic/graphemic) awareness practice and application is what students must prompt themselves to do accurately when spelling and writing *independently*. Its correlation in math is memorizing multiplication tables *before* confronting multiplication and division.

After the first 55 phonograms are learned - relatively well - we begin the spelling process by again using dictation to teach the words. The first word is **me**. It is used in a sentence and then each sound is asked for, i.e. "*What is the first sound you hear when I say, me?*" The students, together, answer '**m**' (the sound) and are requested to write **m** (the symbol) on their paper. Accurate spacing, margins, etc., are again stressed, but this is now easier because of the previous practice when the phonograms were taught. Instruction continues, "*What is the next sound when I say, me?*" Again, they answer together, '**ē**' and are then asked, "*Which ē will you use?*" [At this point, they have already been taught three ways to spell the sound 'e'] They decide it is 'ē', 'ē' - meaning a single **e** phonogram - and write that next to their 'm.' The students then, in unison, dictate back to the teacher who writes the word on the board (or overhead), going through the same questioning process, and the students compare their **me** to the teacher's. The teacher then tells them,



"I am going to teach you how to underline [the vocabulary of instruction is illustrated and defined here as we always do with any words we are using in the instructional process]. " *We are going to underline the e in this word because, 'Vowels a, e, o, u usually say, 'ā' 'ē' 'ō' 'ū' at the end of a syllable'.*" Together, they begin to learn the first of the orthography rules as they are taught the application (not rote) in a particular word. This is the first of three ways that a vowel says its name in English words. They learn the other two very quickly and these are illustrated in their student-prepared resource notebooks. [Examples of the 47 rules of orthography as shown on page 8 of this publication]

The phonetic organization of this program is certainly not the only workable model, but it elegantly incorporates the correct spelling patterns for the 45 elementary sounds of speech sufficiently to encode over a half million English words, and facilitates teaching the application of the rules of the language. Since this method of instruction also accommodates many nuances of sounds heard in all dialects of English world-wide, it can be used to teach both Webster's and Oxford spelling conventions. Phonemic segmentation and auditory processing skills (the basis for two current diagnoses for learning disorders) can be more precisely and efficiently taught through spelling applications than haphazardly through "implicit" phonics applications in *pronouncing* words for reading only.

Phonics for reading applications alone gives only approximate pronunciations for many words. The goal, of course, is automaticity and accuracy. "The mind 'frees up' for comprehension operations only after decoding operations become automatic" (Farnham Diggory, S., 1986). Picture and word associations -- which slow the mental process for mastery of the sound/symbol relationships -- are eliminated for a few weeks while the phonograms are taught and initially applied. Strange as it may sound, children who enter school without having learned the names of the letters or capital letter formation (two more interferences), learn these sound/symbol relationships more easily; they have nothing to unlearn. Early mastery of spelling patterns allows primary students to write with precision and creativity. Conversely, they can then read at their interest and speaking vocabulary levels and enjoy quality literature early which helps to further enhance vocabulary.

**Q. What about the teaching of blends? I notice your phonetic organization does not include these familiar consonant clusters and mentions 45 sounds rather than the more traditional 42 sounds.**

**A.** We do not teach consonant clusters or blends [there are hundreds of these] as part of the phonetic system since they merely combine two or more of the original 45 sounds but still *retain* those individual sounds within the combinations. These clustered consonants *do* need to be practiced as they are blended to form words for both spelling and reading, but we believe it is counter-productive to teach them, in isolation, as separate sound/symbol relationships. In fact, the too-common practice of "collapsing" these consonant clusters (i.e., **str**, **spl**, **nd**, **cl**, etc.) together, as blends, may be one of the great difficulties many children have in developing and maintaining good auditory processing skills. Because they have been taught these "collapsed" sounds as phonemes, our experience shows that non-auditory learners may very well have a more difficult time "*hearing and being aware of the separate sounds*" within these blends or clusters when they are prompting themselves to spell accurately during creative writing. This speculation has been drawn from our own observations.

Note that the 2-, 3-, and 4-letter phonograms previously shown fall into two categories: 1) they form a new sound, or sounds, by having been combined (**au, oi, ch**), or, 2) they spell a sound more commonly represented by only one letter (r/**wr**, f/**ph**, n/**gn**). These are important facts to know for correct spelling. Two of the "Orton" phonograms, **ng**, and the third and fourth sounds of **ough**, 'f' and 'off,' each incorporate two of the conventional "45 sounds of English" to create three additional sounds. This organization created a more workable linguistic base for spelling applications and explains the variance. This "working set" of phonograms incorporates, for teaching purposes, the phonetically significant (as opposed to merely the phonemically significant) single-voiced sound units used in spelling.

**Q. What about saying the consonant sounds "in isolation"? I was taught that this is nearly impossible to do.**

**A.** Yes, it is unless one simply holds the breath as the sounds are said. This way one can isolate the separate sounds, and will *not* produce a **cŭh - bŭh - dŭh - fŭh** or **wŭh** etc. This is a critical point for accurate blending and spelling later. If one teaches that **b** says, **bŭh** and then tries to put it with **read**, we get **bŭh - read**. For many phonemically aware children, this will never yield **bread** because the extra **uh** or "schwa" sound is there. Later, we may diagnose this same child with auditory processing problems. We should mention here that one cannot accurately *sing* consonant phonograms because we sing *on the breath*, not by holding it. Some other sounds are frequently taught incorrectly such as **r** saying either **rŭh** or **er** which are both incorrect. We do not say, **er ide** or **er ose** or **rŭh - ide** or **rŭh - ose**. The correct sounds for **r** (and **l**) are called sub-vocals. They come primarily from the throat, but the tongue must be correctly in place to cause a deliberate, partial obstruction of the vocal cords.

**Q. Can you elaborate further on the "schwa" sounds you mentioned? I find that this frequently causes spelling errors.**

**A.** We find it most productive to call special attention to the "schwa" (the up-side-down e [added to most American dictionaries in the 1940's which made it legitimate to sound, 'ŭh' for the vowels a, e, i, and o in unstressed syllables), but to teach *around* it for correct spellings. For instance, the word *against* is pronounced, **ŭgenst**. With this program, the student would *think, write and spell*, **ā gāinst**, just as our British friends still say it. The word, **button** would be pronounced, **butn** or **butun** as we hear and say it in the normal rhythm of speech, but students would *think, write and spell*, **but tŏn**, sounding both **t**'s for spelling. Which "ö"? It would be, 'ö' - 'ō' - 'oo' - 'aw', the phonemes (sound/s) the students have already learned for the phonogram /o/. This way they are specifically taught which vowel to use in the unstressed syllable, and are thus aware of the schwa pronunciation but, conversely, the correct spellings involved. It is really the use of a mnemonic device or memory aid designated by a small caret ^ over the vowel. Various regional pronunciations are treated the same way; it addresses what we think of to spell a word like *Wednesday*—we think, *Wed ness day*, but say, "*Wenzday*." These types of mispronunciations need to be addressed for correct spelling applications, recalling that spelling is relatively uniform whereas pronunciations have become a provincial potpourri in some areas of this country as well as the world.

**This problem was specifically addressed by the International Reading Association's** Dr. Drew Cassidy at a June 7, 1984 hearing before the Subcommittee on Education, Arts and Humanities, (page 216 of the published hearing testimony), on the subject of reading as a *major problem* if one teaches "phonics." Her testimony, however, made it abundantly clear that she apparently had never taught "phonetics" specifically for spelling. The misunderstanding of *what* "phonics" we're discussing and *how* to teach it is the crux of the matter, and probably accounts for many teachers believing that phonics is no longer a reliable decoding tool. The pro-phonics spokespersons at the same hearing, incidentally, had no plausible explanations for how this issue *should* be addressed. The great debate should begin again with the premise that, for beginning children, "pronunciations" are already known whereas spelling needs to be specifically taught with careful attention to phonetics, rules, syllabication, prefixes, suffixes, and origins which often account for the diverse spelling patterns we find in English.

**Q. How long does it take to teach the sound /symbol system and what do you teach after teaching the beginning spelling words?**

**A.** We teach the first 54 phonograms in the first three weeks of instruction while teaching listening skills, letter formation, spacing, margins, etc. Simultaneously, we are teaching many cognitive sub skills such as auditory and visual discrimination, sequencing, memory, and association and visual/tactile spatial relationships, directionality, linear eye movements, comparative analysis, etc. Articulation, rhythm, inflection and enunciation are stressed for correct speech. Our daily lesson plans show the specific activities used for these cognitive developmental processes.

Spelling, with the application of the rules and a mnemonic marking system has begun by fourth week. Children are read to daily to pique their interest, enhance their vocabularies and expose them to proper voice inflections, phrasing and proper *modeling* of articulate English speech, *but pointedly* they are not held responsible for reading themselves at this point. They also learn some poetry emphasizing phonemic awareness practice but are primarily engaged in learning the sub skills they need for legible handwriting, spelling, composition and reading. Together they first write from Socratic dictation (encode), then sound back to the teacher (read and encode) phoneme/grapheme by phoneme/grapheme and then read six new spelling words from the board each day (reading words in isolation) for mastery and automaticity after each day's spelling lesson.

The goal is to develop an automatic **sight** vocabulary [one arrived at through phonetic analysis and the application of rules rather than a whole-word, rote memorization process], which *frees the mind* for comprehension. They then volunteer to give oral sentences, using their spelling words, and in the seventh week, begin to write simple sentences, using said spelling words, which they then read aloud to the class. This is their very first reading in context! They must write their own sentences because only then can they, their teachers and parents be assured that they will be successful in their first attempt at reading -- an accomplishment critical to their self-esteem.

In the tenth and eleventh weeks, they can be given interesting literature, to accommodate their beginning speech and interest vocabularies, i.e., their whole language selections, etc. The more difficult words, which present pronunciation or spelling problems, can be added to their spelling list to facilitate automaticity and comprehension. We have found this particularly critical for bilingual or ESL transitional students. As the program progresses, it becomes more and more individualized which nicely handles the various ability levels in a normal classroom without the specific use of ability groupings.

**Q. How is vocabulary developed and do you correct oral or written errors in spelling, grammar and syntax?**

**A.** Vocabulary is developed through using spelling words in context with words from literature being read to and by students, from their own compositions, the "language of instruction" vocabulary lessons and speech which is modeled in class by their teacher. Exercises specifically geared to vocabulary include making homograph, homophone, and antonym wall charts or notebook pages as well as charts designed for their independent use in composition, i.e., subject and object pronouns, irregular verbs, formation of past tenses, kinds of sentences. etc. All concepts are first defined, then illustrated on the wall charts or notebook pages and are constantly added to and referred to as needed. Spelling rules, and the use of the phonetic system, are also illustrated on wall charts or notebook pages to aid students in correctly completing their own work, and/or in making corrections after teachers have checked their work and noted errors. For corrections, we always make note of the number correct rather than incorrect and ask students to *find answers* to correct their own work. In this way, students feel responsible for and confident of the work they are doing because they are taking direct responsibility for its accurate completion. They maintain their own portfolios of work, their spelling and composition notebooks and post work of their own choosing on *their* bulletin board space daily.

Grammar and syntax concepts are introduced as they are needed for the composition work involved. Each step carefully builds upon the one previously taught. The Riggs Institute's *Spelling and Usage Dictionary* is introduced in the ninth week. It is not diacritically marked since the grade K - 2 child already can pronounce its 4832 words. Its purpose is to further aid the student with vocabulary development, usage, grammar, syntax, punctuation, capitalization, and ideas for creative writing. Whole language activity books give additional ideas for composition projects and in working the language lessons "across the curriculum" thereby saving or making the direct instructional time needed to successfully develop this skill-based whole language curriculum. If the assignment is to write a report, it can as easily be about yesterday's science project as something less useful. Children also learn that language skills are valuable tools with which they are enabled to do "real" work -- a great motivator.

**Q. What curriculum materials are available to assist the teacher to teach the method you have described for a skills-based whole language approach. What is the cost and how does a teacher obtain the necessary training to do this?**

**A.** Materials recommended by and available [sole source] from the Riggs Institute consist of: *The Writing and Spelling Road to Reading and Thinking, Level 1 Teacher's Edition* (McCulloch, M., © K&M Publishing ); The Riggs Institute's *Writing and Spelling Road to Reading & Thinking Revised "Orton" Phonogram Cards* (McCulloch, M, © Riggs Institute Press) with sounds, spelling rules and handwriting instructions along the Riggs Institute's *Writing and Spelling Road to Reading and Thinking Revised "Orton" Phonogram CD*, Riggs Institute's *Writing and Spelling Road to Reading & Thinking Basic Spelling and Usage Dictionary* (McCulloch, M, © Riggs Institute Press), student notebooks and paper (McCulloch, M, © Riggs Institute Press). From other publishers, a primary-level grammar text with key and a set comprehension books. [See catalog pages] The materials from the Riggs Institute are priced at \$157.90. The Riggs Institute materials listed are a one-time-purchase per teacher and/or parent, for use with any number of students, year after year. Students use a composition notebook each year, appropriate practice paper, and red and black pencils. Though comprehension is stressed throughout the course, the *McCall Harby/ McCall -Crabbs Standard Test Lessons in Reading* series, published by Teachers College Press, is recommended and available for additional practice and ongoing evaluation. Teachers and parents can train themselves to use this method as they implement the daily lesson plans. This approach follows the dictates of compiled research in effective teacher in services (Joyce, B., Showers, B., 1980) which outlines the five steps required for effective training in services:

*theory - demonstration - practice - application - feedback*

**Q. Does the multi-sensory teaching technique of this method make it adaptable for remedial classrooms and other upper grade levels where better language proficiency is needed to accomplish whole language goals?**

**A.** BNR did not discuss the benefits of using a multi-sensory teaching technique at early primary levels though *Reading, Writing and Speech Problems in Children* (Orton, S. T., 1937), had been available for many years. Most learning disability professors, teachers and other specialists are aware of these important findings. Dr. Orton, a neuropathologist, spent almost his entire career studying how the brain functions in learning language. Supervising teachers Anna Gillingham, Nina Traub, Romalda Spalding and others who taught organically impaired individuals, he devised a specific system of teaching through four neurologically-proven "avenues of learning" which could address *all learning styles*. He discovered that teaching through these pathways, if done as a simultaneous process, not only successfully remediated but also made early intervention for the prevention of learning disorders a proven option.

*The Writing Road to Reading* (Spalding, R., 1957/1991) reflects his final conclusions as does the manual and teaching aids we offer. It follows that the method can be, and has been, successfully and widely adapted for nearly every type of remedial need though it was written originally as a program for normal primary-level students.

The late Dr. Hilde L. Mosse, (1982) former head psychiatrist with the New York City Public Schools, wrote the encyclopedic 714-page *The Complete Handbook of Children's Reading Disorders* in which she chronicled 1000 case histories of emotionally-disturbed, psychotic and disabled children whom she *personally* taught to read using *The Writing Road to Reading*. She describes why the WRTR method worked with these students, psychologically, neurologically and, of course, from the pedagogy itself. The late Dr. William Cruickshank enthusiastically endorsed her "compendium of significant information" which is available through the Riggs Institute or your library. Oregon's own Dr. Barbara Bateman wrote the foreword in the one-volume paper-back edition which our Institute published in 1987. She says, "*This is the one source that is essential. One cannot be fully informed about reading disorders without it. A monumental contribution.*"

**Q. What recognition has The Riggs Institute received in support of their materials and training programs as described in this paper?**

**A.** We were recognized in a federal study (Groff, P., 1987) as one of twenty-seven private sector organizations "*having a proven track record of success in assisting teachers in translating recommendations for reform in reading instruction into reality.*" Our materials are favorably reviewed in research (Stein, M., 1993), and are included in the current ASCD Materials Directory.

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# Curriculum Survey Form

This form is to be used with the Riggs Institute's [Overview/Catalog](#). You may copy any of this form and/or our [Overview/Catalog](#) and distribute at your convenience.

## Knowing How A Child's Brain Works Will Help You Find an Appropriate Curriculum

### THE RIGHT "STUFF"

- Complete Phonetics – "What is it?? Phonemes & Graphemes (Spelling Patterns)
- Correct Spelling, Roots, Prefixes, Suffixes, Morphemes
- 47 Rules of Orthography (Spelling, Plurals, Syllabication)
- Grammar & Syntax

### IN THE RIGHT ORDER (Begins With Speech)

- Letter Formation taught with graphemes and phonemes
- Spelling Applications with rules, Mnemonic Marking System + Charts
- Oral Sentences
- Written Sentences
- Reading & Comprehension
- Grammar & Syntax with Parsing, Diagraming and Charts
- Creating and Organizing Compositions
- Vocabulary Development with Quality Literature, Dictionary Work, Prefixes, Suffixes and Latin & Greek Roots

### IN THE RIGHT WAY (taught to "wire" the brain for easy teaching and learning)

- Multi-Sensory Instruction through...Sight, Sound, Voice & Writing (THE 4 neurological pathways to the brain addresses all "learning styles" simultaneously without discrimination)
- Dictation (not copying or tracing)
- Direct Instruction (no workbooks needed) – saves time & money
- Socratic Instruction (questioning promotes student thinking, reasoning, analyzing)
- Reference Notebooks (or Charts) for independent Learning

**"Reading is to the mind,  
What exercise is to the body"**

Addison – The Tatler







9. Have you ever taught initial letter formation, concurrently with "explicit" phonics, through dictation?  
\_\_\_Yes \_\_\_No If yes, in what program/s \_\_\_\_\_ If no, would you like to? \_\_\_Yes \_\_\_No

10. Have you studied how individuals best develop cognition in the language-related areas of their brain (speech, sight, auditory, motor)? \_\_\_Yes \_\_\_No If no, would our multi-sensory approach make sense to you? \_\_\_Yes \_\_\_No Do you believe that multi-sensory instruction *could* be an answer to accommodate various types of "learning styles" with the same program? \_\_\_Yes \_\_\_No

11. Have you found the work of the brain researcher reflected in the instructional materials you have or are currently using? \_\_\_Yes \_\_\_No If yes, what program/s \_\_\_\_\_ Have you made inquiry in to this area? \_\_\_a lot \_\_\_some \_\_\_a bit \_\_\_none.

12. Have you ever taught spelling and phonemic awareness through dictated and Socratic instruction?  
\_\_\_Yes \_\_\_No

13. Have you found difficulties trying to explain and get children to recall the difference between how we often pronounce a word and how we spell it? \_\_\_Yes \_\_\_No

14. Can you visualize how this basic skills instruction might be incorporated into across-the-curriculum reading and writing assignments to provide for more interesting assignments? \_\_\_Yes \_\_\_No Do you believe this might help to solve the classroom time problem? \_\_\_Yes \_\_\_No Do you think lack of classroom time is a major problem? \_\_\_Yes \_\_\_No

Please print and mail to:

Riggs Institute  
21106 479<sup>th</sup> Ave  
White SD 57276

This non-profit agency can only be as good as the feedback we get, there is no need to sign your name. If you wish you can fill out and email the PDF version of this document.

# THE PHONEMES AND GRAPHEMES OF CORRECT ENGLISH SPELLING

<b>Phonemes</b>	'ă'	'ā'	'ah'	'aw'	'b'	'k'	's'	'd'
<b>Graphemes</b> [The alphabetic principal, often spoken of, but rarely defined]	at	cape pay pail eight they break veil	want odd	cost all paw pause thought	bear	cat school back kite mosquito	cent sat	dog loved
<b>Phonemes</b>	'ĕ'	'ē'	'f'	'g'	'j'	'h'	'ī'	'i'
<b>Graphemes</b>	bed bread	be conceit meat feet key lady radio prairie	far phone	gate ghost	jug badge charge	hot	hit myth build	find pie sigh my guide guy
<b>Phonemes</b>	'l'	'm'	'n'	'ō'	'ōō'	'p'	'kw' *	'r'
<b>Graphemes</b>	leg	man	not know gnat pneumonia	no floor row flour though boat toe	food do dew due fruit through you neutral	pan	quiet	rose wrap rhythm
<b>Phonemes</b>	't'	'ŭ'	'ū'	'oo'	'v'	'w'	'ks' *	'y'
<b>Graphemes</b>	tab fixed	fuss country	music few feud	put foot	vase	wet	box	yard
<b>Phonemes</b>	'z'	'er'	'ar'	'or'	'sh'	'ch'	'th'	'th'
<b>Graphemes</b>	zoo as xylophone	mother hurry first word learning	car	order	shut chic nation session special	change batch	thin	this
<b>Phonemes</b>	'ng'	'ow'	'oy'	'zh'	'wh' *			
<b>Graphemes</b>	ring	cow bounty bough	boy coin	vision equation	when			

Elementary sounds are phonemes which cannot be further divided; this method uses 45 sounds (those shown with an \* *can* be further divided) to simultaneously teach 118 commonly used correct spelling patterns. They are taught, with multi-sensory, *explicit* and direct instruction (no worksheets) in the first nine weeks of this method, Grades 1 and up. Beyond these common graphemes, which render most fourth grade oral vocabularies *encodable* (correct spelling) and *decodable* (able to read and comprehend regular text), there are other unusual spelling patterns in such words as *psalm, waltz, beauty, view, lieu, azure, onion, forfeit, friend, capture, question, sure, ocean, quest, shoe, etc.*

# WHY YOU NEED BRAIN-BASED INSTRUCTION FOR YOUR STUDENTS

## KIDS' BRAINPOWER

Learning: Early years shape 'basic architecture'

[Reprinted with permission from The Oregonian, 12-15-1993]

(Citing new evidence, researchers suggest the U.S. education system take a new look at young minds.)

### By: Steve Nadia – Technology Review

Parents and teachers have long known that a child's brain can soak up information like a sponge. But now, researchers have scientific evidence to back up the theory, along with advice on ways to help children reach their full potential.

Perhaps the most convincing new corroboration of the young child's phenomenal learning capacity come from neurologist Harold Chugani, head of the PET Center at the Children's Hospital of Michigan.

While at UCLA during the 1980s, Chugani had been examining PET scans to pinpoint the brain-seizure sites of his epilepsy patients. But he also has used these scans to observe

which brain structures were metabolizing the most glucose and therefore were the most active. By examining the glucose metabolism of patients ranging from newborns to adults, Chugani uncovered the timetable under which various regions of the brain develop.

By age 2, for instance, the cortex begins operating at adult activity levels. By 4, a child's brain is more than twice as active as an adult's. The brain continues to consume glucose at this feverish pitch through age 10 and then slows down until age 16, when it levels off at adult values.

The child's brain burns much more glucose than an adult's brain. Chugani said, because it must maintain trillions of connections between neurons, more than twice as many as are ultimately retained.

"Initially, the brain provides too many connections in the cerebral cortex," he said. "Then, there's a waiting period to decide which ones you want to keep."

These connections represent potential pathways that an electrical impulse may travel. Connections are strengthened by repeated use, and those that are not used become vulnerable to elimination.

"The thing that determines which connections are saved is education in the broadest sense of the term," says UCLA's Michael Phelps, a biophysicist and co-inventor of the PET scan. "If we teach our children early enough, it will affect the organization, or 'wiring,' of their brains."

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*"If we teach our children early enough, it will affect the organization, or 'wiring,' of their brains."*

Michael Phelps,

Unfortunately, U.S. education does not take full advantage of this opportunity, Phelps said.

For example, foreign language instruction is often deferred until high school, despite the fact that youngsters can

learn to speak like natives – that is, to think in the language without having to translate – whereas teenagers or adults usually cannot.

When small children learn a new language, he said, "the ability to use that language is wired in the brain." Musical training is another familiar example. "By encouraging young children to learn music and practice, you're really doing them a big favor," Chugani said.

"Once a child has learned an instrument, he or she can stop playing, then pick up the instrument 20 years later and do much better than an adult just starting out.

Deprivation – the opposite of enrichment – can also permanently affect the organization of the brain. For instance, the language centers of the cortex

are not able to reach full maturity without

*"Children need a flood of information, a banquet, a feast."*

solutions that engage numerous systems in the brain and strengthen the connections among

proper stimulation, says psychiatrist Arnold Scheibel, director of UCLA's Brain Research Institute.

That's why so-called "feral" children who grow up in the wilderness without adults cannot master a language if they are brought back to civilization after the age of 10.

Likewise, experiments by neurobiologists David Hubel of Harvard and Torsten Wiesel of Rockefeller University have shown that cats can be blinded simply by covering their eyes during critical periods of infancy.

Although the retina remains intact, the connections between the retina and brain are permanently impaired. When blindfolds are applied to adult cats, their vision is not permanently affected because essential wiring is already in place.

The lessons from studies such as these are clear, contends Martha Pierson, a neurobiologist at Baylor College of Medicine. "Children need a flood of information, a banquet, a feast."

Early education, she adds, "shapes the basic architecture of the computer. If you are exposed to enough things, you'll develop a processor that can handle the flood of data that life throws at you later."

Merlin Wittrock, head of UCLA's Division of Educational Psychology, maintains that much of the instruction in today's schools is based on a flawed premise.

"For a long time, we've assumed that children should get an immediate reward when they do something right," he said. Courses, therefore, typically revolve around exercises broken up into tiny chunks with answers supplied at every conceivable juncture. "But the brain is much more complicated than most of our instruction," Wittrock said. "It has many systems operating in parallel."

In place of the usual "drill and practice" programs, he advocates complex problems without simple

them. Because children may grapple with these problems for an extended period of time, the experience also should make a much more lasting impression.

Chugani concurs. Since repeated stimulation stabilized the connections between neurons, he said, "it's better to expose a kid to a lot of things over a period of years, rather than trying to cover subjects one at a time in brief, intensive workshops."

UCLA's Scheibel cautions, however, that pushing youngsters too hard can be counterproductive. "When the level of exposure becomes excessive," he said, "stress hormones are released that actually destroy nerve cells."

A balance must be struck between too little exposure and too much. Another important issue is the proper time to begin the educational process.

Clearly, we shouldn't force kids to learn too much too soon. "But why wait until age 5," said Yale biologist Martha Constantine-Paton, "when the evidence clearly shows that brain development begins much earlier."

For example, she said, before a child can begin to learn how to read, the basic neural wiring has to be in place: kids have to be able to track things with their eyes, focus attentions, and interpret symbols.

This points to the importance of preschool programs such as Head Start, she said, where children can get the stimulation necessary to prepare them for reading and other challenges ahead.

All of this is not to suggest that we should give up on education adults. "Although there is a great window of opportunity for learning up to the age of 10, said Scheibel, "that doesn't mean you're over the hill at 12 or 14 or even 40."

Even in old age, the brain retains some "plasticity." If we stay healthy, he added, "we can continue learning right up to the day we die."