

Spelling Genius at Work



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An analysis of developmental spelling in *GNYS AT WRK*

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GNYS AT WRK by Glenda Bissex is a fascinating account of her son Paul's development of written language from his first writing as a 4-year-old until he was 10. Richard Gentry sees five stages in learning to spell revealed, he shows what is involved in each stage, and what the teacher can do to help.

Teachers who understand that spelling is a complex developmental process can help students acquire spelling competency. Initially, the teacher must recognize five stages of spelling development. Once the stages are identified, the teacher can provide opportunities for children to develop cognitive strategies for dealing with English orthography, and assess the pupil's development. This article demonstrates a scheme for categorizing spelling development and shows ways to foster pupils' spelling competency. In doing so, it integrates important work by Bissex (1980), spelling researchers, and reading/language researchers over the past decade.

GNYS AT WRK, an account of a case study conducted by Glenda Bissex (1980), contributes much understanding to how children may develop reading, writing, and oral language skills. In addition, it provides an excellent data base for this focus on spelling development. Bissex traces her son Paul's written language development from his first writing as a 4-year-old through productions typical of fourth graders whose reading, writing, and spelling development has progressed normally up through the ages of 9 or 10 years.

This article applies a developmental spelling classification system to the Bissex case study, revealing developmental stages that researchers (Beers and Henderson, 1977; Gentry, 1977; Henderson and Beers, 1980; Read, 1975) have discovered in children's early spelling and writing. Such pre-existing form suggests 'that learning to spell is not simply a matter of memorizing words but in large measure a consequence of developing cognitive strategies for dealing with English orthography . . .' (Read and Hodges, in press). Further, the

article outlines the developmental process and provides suggestions for how spelling development may be nurtured in the classroom.

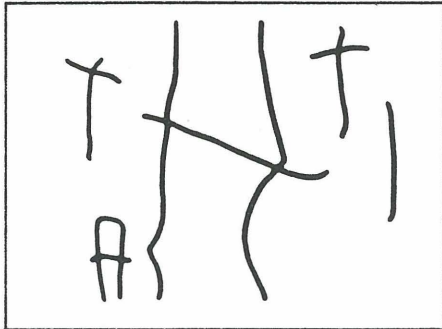
As children discover the intricacies of printed English, they progress through five levels of spelling, with each representing a different conceptualization of English orthography: precommunicative spelling, semiphonetic spelling, phonetic spelling, transitional spelling, and correct spelling (Gentry, 1978). A progressive differentiation of orthographic knowledge may be observed which, over time, enables the competent speller to rely on multiple strategies, including visual, phonological, and lexical or morphological information accrued not from rote memory but from extensive experience with written language (Read and Hodges, in press). The classification system applied here to the Bissex case study focuses on an analysis of spelling miscues and observation of the strategies used to spell words. Classification is based primarily on studies reported by Read (1975) and Henderson and Beers (1980).

Precommunicative stage

Developmental spelling studies (Gentry 1977; Henderson and Beers, 1980) have identified the earliest level of spelling development as the level where the child first uses symbols from the alphabet to represent words. [Note, however, that writing development begins much earlier, with pencil or pen handling and scribbling as early as 18 months of age (Gibson and Levin, 1975).] Paul, before the formal observation of the Bissex case study began, had clearly been a precommunicative speller. Bissex provides two samples of Paul's productions at this earliest spelling level which, for Paul, appeared while he was still 4 years old. She describes the first examples as a 'welcome home' banner that took the following form (actual size 30 by 120 cm):



Bissex (1980, p. 4) reports other incidences of precommunicative spelling: 'Next, he [Paul] typed strings of letters which he described as notes to his friends. Then he produced a handwritten message — large, green letters to cheer me up when I was feeling low:



These first, occasional writings spanned several months, during which time he showed an interest in handwriting.' Such instances clearly document Paul's stint as a precommunicative speller. [Illustrations from *GYNS AT WRK: A Child Learns to Write and Read*, by Glenda L. Bissex, published by Harvard University Press, reprinted by permission of the publisher.]

A speller is specifically precommunicative when his/her spelling errors are characterized by the following behaviours (Bissex, 1980; Goodman, 1980; Söderbergh, 1971; Torrey, 1973).

(1) The speller demonstrates some knowledge of the alphabet through production of letter forms to represent a message.

(2) The speller demonstrates *no* knowledge of letter-sound correspondence. Spelling attempts appear to be a random stringing together of letters of the alphabet which the speller is able to produce in written form.

(3) The speller may or may not know the principle of left-to-right directionality for English spelling.

(4) The speller may include number symbols as part of the spelling of a word.

(5) The speller's level of alphabet knowledge may range from much repetition of a few known alphabetic symbols to substantial production of letters of the alphabet.

(6) The speller frequently mixes uppercase and lowercase letters indiscriminately.

(7) The speller generally shows a preference for upper case letter forms in his/her earliest samples of writing.

The primary constraint under which the precommunicative speller operates is a lack of knowledge of letter-sound correspondence. As a result, precommunicative spelling attempts are not readable — hence the term 'precommunicative.' Though these initial attempts are purposeful

productions representing the child's concept of words, at this stage spellings do not communicate language by mapping letters to sounds.

'Precommunicative' appears to be a more appropriate level of this first stage than the term 'deviant,' which is used in some earlier studies (Gentry, 1977; Gentry, 1978). Although precommunicative spellings deviate extensively from conventional spelling patterns, they are in no sense unnatural or uncommon, as the word 'deviant' implies. Precommunicative spelling is the natural early expression of the child's initial hypothesis about how alphabetic symbols represent words.

The semiphonetic stage

The second stage of spelling development, which for Paul began at 5 years 1 month of age and lasted only a few weeks, is illustrated by productions such as: RUDF [Are you deaf?!], GABJ [garbage], BZR [buzzer], KR [car], TLEFNMBER [telephone number], PKIHER [picture], BRZ [birds], DP [dump], HAB [happy], OD [old]. These invented spellings, called semiphonetic (reported as 'prephonetic' in some earlier studies), represent the child's first approximations to an alphabetic orthography.

Unlike the previous stage, semiphonetic spellings represent letter-sound correspondence. It is at this stage that a child first begins to conceptualize the alphabetic principle. The conditions of semiphonetic spelling are:

(1) The speller begins to conceptualize that letters have sounds that are used to represent sounds in words.

(2) Letters used to represent words provide the partial (but not total) mapping of phonetic representation for the word being spelled. Semiphonetic spelling is abbreviated; one, two, or three letters may represent the whole word.

(3) A letter name strategy is very much in evidence at the semiphonetic stage. Where possible the speller represents words, sounds, or syllables with letters that match their letter names (e.g., R [are]; U [you]; LEFT [elephant]) instead of representing the vowel and consonant sounds separately.

(4) The semiphonetic speller begins to grasp the left-to-right sequential arrangement of letters in English orthography.

(5) Alphabet knowledge and mastery of letter formation become more complete during the semiphonetic stage.

(6) Word segmentation may or may not be in evidence in semiphonetic spelling.

Paul's rather short stint as a semiphonetic speller may be attributed to the intensity and quantity of writing during the first month after his fifth birthday and to his mother's intervention (e.g., suggestion for spacing between words, supplying letter-sound correspondences upon request, encouragement and obvious interest in Paul's invented spellings). Bissex reports 'rapid flourishing and evolution of that development' (Bissex, 1980 p. 11) which is evident as Paul moved quickly away from semiphonetic to complete phonetic spelling. The evolution of complete phonetic spelling from the earlier semiphonetic version is demonstrated as Paul switched from TLEFN [telephone] to TALAFON [telephone], KR [car] to KOR [car], BRZ [birds] to BRDE [birdie], and produced messages with fewer semiphonetic and more phonetic spellings, such as the message Paul typed at 5 years 2 months: EF U KAN OPN KAZ I WIL GEV U A KN OPENR [If you can open cans I will give you a can opener] (underlined words are phonetic spellings) (p. 11).

The phonetic stage

Paul enjoyed spurts as a prolific phonetic speller from 5 years 1 month through around 5 years 8 months to 6 years 1 month, writing in a wide variety of forms: signs, lists, notes, letters, labels and captions, stories, greeting cards, game boards, directions, and statements (Bissex, 1980 p. 15). Examples of his phonetic spelling include: IFU LEV AT THRD STRET IWEL KOM TO YOR HAWS THE ED [If you live at Third Street I will come to your house. The End] (p. 13), and PAULZ RABR SAF RABRZ KANT GT EN [Paul's robber safe. Robbers can't get in] (p. 23).

The phonetic stage has been well documented in the literature (Beers, 1974; Gentry, 1977, 1978, 1981; Gentry and Henderson, 1978; Henderson and Beers, 1980; Read, 1971, 1975, 1980; Zutell, 1975, 1978). Read's (1975) very complete documentation reports children's phonetic spellings of 80 phonotypes, some reflecting obscure details of phonetic form. Children's phonetic spelling is the ingenious and systematic invention of an orthographic system that completely represents the entire sound structure of the word being spelled. Though some of the inventive speller's letter choices do not conform to conventional English spelling for some sounds, the choices are systematic and perceptually correct. Phonetic spellings (which are quite readable) adhere to the following conditions:

(1) For the first time the child is able to provide a total mapping of letter-sound correspondence; all of the surface sound features of the words being spelled are represented in the spelling.

(2) Children systematically develop particular spellings for certain details of phonetic form; namely, tense vowels, lax vowels, prenasal nasals, syllabic sonorants, *-ed* endings, retroflex vowels, affricates, and intervocalic flaps (Gentry, 1978; Read, 1975).

(3) Letters are assigned strictly on the basis of sound, without regard for acceptable English letter sequence or other conventions of English orthography.

(4) Word segmentation and spatial orientation are generally, but not always, in evidence during the phonetic stage.

Bissex reports examples of Paul articulating an awareness of English orthography that was developing through the mental exercise employed each time he wrote. ' "With letters there's two ways of spelling some words, he said, pointing out that 'cat' could be spelled K-A-T or C-A-T and 'baby' B-A-B-Y or B-A-B-E ' (p. 10). This cognitive awareness of English orthography becomes markedly more developed in children who are allowed to invent their own spellings during their progression through the phonetic stage. As they become more and more aware of the conventions of English spelling, they emerge into the fourth stage.

Bissex correctly predicted Paul's move into 'the next phase of his spelling development,' the transitional stage (p. 15).

While writing the song book, Paul observed, 'You spell "book" B-O-O-K. To write "look" you just change one letter — take away the B and add an L.' This mental spelling and word transforming continued after his writing spurt temporarily petered out: 'If you took the L out of "glass" and pushed it all together, you'd have "gas",' he mused while lying in bed. Such manipulation was the form that the next phase of his spelling development took. The following week (5:3) he mentally removed the L from 'please' (for 'peas' or 'pees'), and after we had some conversation about Daedalus and Icarus, observed that 'if you put an L in front of Icarus, you get "licorice."' And 'if you take the T and R off "trike" and put a B in front, you have "bike".'

The transitional stage

Most of Paul's mental rehearsal and hypothesizing about words were unrecorded. It took place, however whenever he wrote and, as Bissex reports, sometimes when he was not writing. This kind of mental activity allowed Paul to make the discoveries necessary for moving into the transitional stage of spelling development. After 6 years 1 month, his spelling looked different from the previous phonetic spelling. A weather forecast from Newspaper # 1 said: THES AFTERNEWN IT'S GOING TO RAIN. IT'S GOING TO BE FAIR TOMORO. A news item in Newspaper # 4 read FAKTARE'S [factories] CAN NO LONGER OFORD MAKING PLAY DOW [dough] (p. 46)

Paul was a transitional speller throughout most of his first and second grade years.

The transition stage, during which time great integration and differentiation of orthographic forms take place, marks a major move toward standard English orthography. During this stage, the speller begins to assimilate the conventional alternatives for representing sounds. The speller undergoes a transition from great reliance on phonology or sound for representing words in the printed form to much greater reliance on visual and morphological representations. During this stage, instruction in reading and spelling facilitates the move toward spelling competency, but the changes affecting the speller's conceptualization of orthography are too complex to be explained by a simple visual memorization of spelling patterns (Chomsky and Halle, 1968; Henderson and Beers, 1980; Read and Hodges, in press).

(1) Transitional spellers adhere to basic conventions of English orthography: vowels appear in every syllable (e.g., EGUL instead of the phonetic EGL [eagle]; nasals are represented before consonants (e.g., BANGK instead of the phonetic BAK [bank]); both vowels and consonants are employed instead of a letter name strategy (e.g., EL rather than L for the first syllable of ELEFANT [elephant]); a vowel is represented before syllabic *r* even though it is not heard or felt as a separate sound (e.g., MONSTUR instead of the phonetic MOSTR [monster]); common English letter sequences are used in spelling (e.g., YOUNITED [united], STINGKS [stinks]); especially liberal use of vowel digraphs like *ai*, *ea*, *ay*, *ee*, and *ow* appears; silent *e* pattern becomes fixed as an alternative for spelling long vowel sounds (e.g., TIPE in place of the phonetic TIP [type]); inflectional endings like *s*, *'s*, *ing*, and *est* are spelled conventionally.

(2) Transitional spellers present the first evidence of a new visual strategy; the child moves from phonological to morphological and visual spelling (e.g., EIGHTEE instead of the phonetic ATE [eighty]).

(3) Due to the child's new visual strategy, transitional spellers may include all appropriate letters, but they may reverse some letters (e.g., TAOD [toad], HUOSE [house], OPNE [open]. Bissex (p. 44) attributes this phenomenon to interference. The new visual strategy, though in use, is not yet integrated to the point that the speller recognizes what 'looks right.'

(4) Transitional spellers have not fully developed the use of factors identified by researchers that contribute to spelling competency: graphemic environment of the unit, position in the word, stress, morpheme boundaries, and phonological influences (Bissex, 1980; Gibson and Levin, 1975; Venezky, 1970).

(5) Transitional spellers differentiate alternate spellings for

the same sound. A long *a* sound, for example, may be spelled the following ways by a transitional speller: EIGHTE [eighty], ABUL [able], LASEE [lazy], RANE [rain], and SAIL [sale]. However, as indicated above in condition number 4, the conditions governing particular alternatives for representing a sound are only partially understood at the transitional stage.

(6) Transitional spellers generally used learned words (correctly spelled words) in greater abundance in their writing.

Thus far, this analysis of developmental spelling has focused on information obtained from misspelled words. Early in development, semiphonetic and even some precommunicative spellers may have 'learned' or 'automatic' spellings for certain words like C-A-T or their names. These correct spellings offer no clues to the speller notion of how English orthography works and are interspersed with developmental forms in varying degrees. For example, correct forms may account for from 0 to 50% or more of the words in semiphonetic writing, depending largely upon the writer's exposure to reading and the amount and type of instructional intervention experienced. Developmental spelling levels may be determined only by observing spelling miscues, not by observation of words spelled correctly. As in reading miscue analysis, the miscues are 'the windows into the mind' (Goodman, 1979, p. 3) that allow the observer to determine the speller's level of development. Beyond the transitional stage, the child reaches a stage where miscues are relatively infrequent.

The correct stage

Correct spelling, though easily identified, may exist at different levels. Instructionally, a second grader is a 'correct speller' after mastering a certain corpus of words that has been designated as 'second grade level.' Likewise, a sixth grade level speller has mastered the designated sixth grade level corpus. 'Correct spelling' is usually viewed from the instructional scheme rather than the developmental scheme because developmental research beyond the ages of 8 or 9 is limited to a few research studies (Juola *et al.*, 1978; Marsh *et al.*, 1980; Templeton, 1979).

It may be that the major cognitive changes necessary for spelling competency are accomplished by the end of the transitional stage and that further growth is an extension of existing strategies. Research suggests that formal spelling instruction facilitates spelling growth once the child gets into the transitional stage (Allen and Ager, 1965). In addition to formal instruction, the child continues to learn from being attentive and interested in spelling through writing experiences. Beyond the transitional stage, frequent writing experiences with some formal instruction enables children to attain spelling competency over a period of time (usually 5 or 6 years).

Developmentally, Paul was a 'correct' speller by the time he was 8 years old. At that time he knew the English orthographic system and its basic rules. (At 8, Paul's spelling achievement was superior to the average development for children his age.) Further experience with words would result in finer discrimination and an extension of orthographic knowledge, but Paul had entered the correct stage, where the basis of his knowledge of English orthography was firmly set. His spelling matched well the characteristics of the developmentally correct speller:

(1) The speller's knowledge of the English orthographic system and its basic rules is firmly established.

(2) The correct speller extends his/her knowledge of word

environmental constraints (i.e., graphemic environment in the word, position in word, and stress).

(3) The correct speller shows an extended knowledge of word structure including accurate spelling of prefixes, suffixes, contractions, and compound words, and ability to distinguish homonyms.

(4) The correct speller demonstrates growing accuracy in using silent consonants and in doubling consonants appropriately.

(5) The correct speller is able to think of alternative spellings and employ visual identification of misspelled words as a correction strategy. He/she recognizes when 'words don't look right.'

(6) The correct speller continues to master uncommon alternative patterns (e.g., *ie* and *ei*) and words with irregular spellings.

(7) The correct speller masters Latinate forms and other morphological structures.

(8) The child accumulates a large corpus of learned words.

The developmental spelling scheme presented here has progressed through precommunicative, semiphonetic, phonetic, transitional, to correct spelling. Change from one spelling stage to the next is more or less gradual; samples of more than one stage may co-exist in a particular sample of writing as the child moves from one stage to the next.

Development, however, is continuous. Children do not fluctuate between stages, passing from phonetic back into semiphonetic spelling or from transitional back to phonetic (Gentry, 1977). As spelling develops, children draw increasingly from alternative strategies — phonological, visual, and morphological. Development proceeds from simple to more complex, from concrete to more abstract form, toward differentiation and integration. Teachers can nurture this process in the classroom by providing opportunities for children to develop cognitive strategies for dealing with English orthography.

Fostering spelling competency in the classroom

The following guidelines enable primary teachers to help children acquire foundations for spelling competency.

(1) Provide purposeful writing experiences in the classroom. Purposeful writing is the key to cognitive growth in spelling. As pupils hypothesize and mentally rehearse printed representations for words, they engage in the cognitive activity needed for developmental growth. This activity is most frequent and natural when children write for a purpose, that is, enjoy a meaningful experience of sharing information in print. This occurs whenever children write stories, songs, lists, plans, messages, recipes, letters, and signs. It occurs when writing is both functional and fun.

(2) Have pupils write frequently. Pupils should add something new to their creative writing folders each week. Writing (integrated with all aspects of the curriculum and with all classroom activity), should be a natural part of the daily classroom routine. As in learning any complex cognitive process, practice and frequency of occurrence are important. Frequent application of spelling knowledge while writing moves spelling forward developmentally.

(3) De-emphasize correctness, writing mechanics, and memorization. The primary school teacher's main job is to set the foundations for spelling growth. When frequent purposeful writing in the classroom takes precedence, focus on

correctness, mechanics, and memorization must be secondary. Early overemphasis on mechanical aspects of spelling inhibits natural development spelling competency and growth. This is not to suggest eliminating mechanics altogether. Proofreading and editing should begin early. Handwriting should be taught. Models of correct writing, patterns of written form, and teacher edited and typed versions of children's works should be a part of the classroom. The core of this activity, however, should be children's purposeful writing. Teacher expectations for correctness should be adjusted to fit the pupils' level of development.

(4) Help pupils develop spelling consciousness. An environment of frequent purposeful writing provides numerous opportunities for teachers to help students discover more about spelling words. In responding to children's writing, teachers build pupil interest in words, make word study fun, answer questions, and teach skills. Pupils become conscious of English spelling without being overwhelmed by its complexity.

(5) Observe and assess pupil progress. Guidelines 1 through 4 suggest ways the teacher may teach spelling as a cognitive activity. Knowing how to intervene and what instructional skills to address hinge upon teacher knowledge of the developmental process, teacher observation, and assessment. Teachers may begin by applying stage descriptions (provided in this article) to samples of the child's writing to determine the child's developmental level. Level of development and observation provide clues for instruction. For precommunicative and semiphonetic spellers, instruction may focus on alphabet knowledge, directionality of print and its spatial orientation, children's concept of words, matching oral language to print, and representing sounds with letters. Phonetic spellers are ready for introduction to the conventions of English orthography: word families, spelling patterns, phonics, and word structure. Word study is extended for the transitional speller, who is ready for a spelling textbook and formal spelling instruction. Even after formal spelling instruction begins, the pupil must maintain a vigorous programme of independent writing. All writing is collected in a writing folder which becomes the focal point for assessment. The teachers analyzes the writing samples, noting changes in spelling strategies, application of skills taught, and general progress toward spelling competency.

In summary, learning to spell must be treated as a complex developmental process that begins at the preschool and primary school levels. As teachers observe spelling skills unfold, they must engage pupils in the kinds of cognitive activity that lead to spelling competency.

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