

The Curious Role of Letter Names in Reading Instruction

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For about two thousand years educators assumed without question that learning the letter names in their proper sequence was a prerequisite for literacy. Learning the ABC's became synonymous with learning to read. But today there is disagreement over the value of early letter-name training. Some claim that it aids letter or word discrimination; some claim that it aids attaching sounds to letters, and some claim that it interferes with both of these tasks. An analysis of the letter names and of experimental and pedagogic evidence lends little support to the claims of letter-naming benefits. In several countries—including the United States, the Soviet Union, and Israel—letter-name knowledge has been found to interfere with learning to attach sounds to letters. But letter-name knowledge has also been shown to be one of the best single predictors of reading success, and no matter what is shown experimentally about the utility of letter names, they are efficient labels for the letters and an inseparable element in the popular concept of reading instruction.¹

The earliest recorded procedure for teaching reading, called the alphabetic or ABC method, began with a stiff dose of letter-naming and sequencing, followed (for the survivors) with letter sounding—alone, then in syllables, and then in words. Those who graduated from this regimen were then permitted to read groups of words, sentences, and paragraphs with emphasis on both oral production and meaning. In one form or another this was the approved method for teaching reading from its origin in antiquity until well into the nineteenth century. In America it survived as the standard method until about 1840 (Anderson & Dearborn, 1952, p. 204) or 1870 (Huey, 1908, p. 265) or the 1920's (Chall, 1967, pp. 140f). For the last fifty or so years, according to Chall (1967, pp. 140f) the accepted practice has called for not teaching letter names and sound values until the child has learned to read words: "The teacher's

guidebooks for most basal-reading series suggest that letters and their sound values be taught when the child can read about fifty to one hundred words by sight.”

However, a firm belief in the efficacy of letter-name knowledge has never been totally purged from American educators, as evidenced not only by the highly visible efforts of *Sesame Street* but also by those educators who still establish letter-name knowledge as the first—and sometimes only—goal of prereading activities. It is not beyond imagination, therefore, that letter-naming could be returned to the core of reading instruction, especially in an era that has already witnessed the return of Art Deco, 50’s movies, and fraternity parties.

The Origins of the Letters and Their Names

The alphabet used today to teach reading in English-speaking countries came to England through four major cultural borrowings. Like all major Western writing systems, it originated in the North Semitic alphabet which evolved in the Middle East over 4000 years ago.² By the end of the second millennium B.C.E., this alphabet was borrowed by the Greeks, who passed it on to the Etruscans, who in turn gave it to the Romans. From Italy it was carried by ecclesiastical hands to England where with Christianization in the sixth and seventh centuries, it replaced the runic alphabet which the Germanic conquerors of England had brought from the Continent.

By the time of the Greek borrowing, the North Semitic alphabet, which represented consonant sounds only, had a traditional ordering for its letters and had evolved meaningful names for each (cf. Modern Hebrew: aleph “ox,” beth “house,” gimel “camel”). The Greeks added vowels, but retained both the original ordering and the names, which became meaningless labels (e.g., alpha, beta, gamma—perhaps the first recorded use of nonsense syllables). Apparently the Etruscans were the first to replace the Greek terms with names based upon the letter sounds; however, the evidence for this replacement is sketchy at best and is based primarily upon late Latin evidence (Gordon 1971). Diringer (1968, pp. 419f) states with some confidence, nevertheless, that “the greater part of the Latin

names of the letters, which have descended into English as into the majority of modern alphabets, were taken over from the Etruscans....” For English it is safe to assume that the letter names were introduced along with the letters. (The runic alphabet also had letter names at the time it was first used for writing English).

The Modern Romance letter names are all derived from Latin, except, of course, those for non-Latin letters. Thus, *j*, which did not exist in the Classical Latin alphabet, is *i lunga* in Italian, but *jota* in Spanish. English *ze* is apparently a shortening, by analogy with *be*, *ce*, *de*, etc., of earlier *zed*, which though derived ultimately from the Greek *zeta* (cf. It. *zeta*; Sp. *zeta*, *zeda*) was not named in English until after the Norman conquest.

The ordering of the letters is also of great antiquity, being evidenced by various passages in the Hebrew Bible and by an early eighth- or ninth-century (B.C.E.) inscription found at Lachish, in what is now Israel. In addition, a fourteenth-century (B.C.E.) Ugaritic tablet shows, among the thirty Ugaritic letters, the twenty-two North Semitic letters in exactly the same order as they have in modern Hebrew.³

Instructional Practices

Although the ABC method with its granite base of letter-naming was the favored form of reading instruction for over 2000 years, it was not without its critics. In the first century of this era, Quintilian spoke against teaching letter names and the order of the letters before all the letter shapes were learned. The basis of his plaint was the belief that the memorized names detracted the child from fixing his attention on the letter forms.⁴ In 1570 John Hart, the English phonetician and spelling reformer, inveighed against the evil of letter naming, claiming that learning the names of the letters hindered learning to read. Hart’s objections were based upon the discrepancy between names and sounds, as demonstrated by his impassioned attack upon the letter *h*: “For H. what reason is it to call it *ache*, which we speak when we would express the grief of braine, flesh or bone, and say

and write headache, etc. whereas the nature and office of H. is to signifie the only putting forth of the breath, before or after the pure voyces called vowels..." (Danielsson, 1955, pref. IVa).

Aside from objections based upon the negative value of letter-naming there have also been observations that learning the letter names is difficult for some children. Hoole, for example, reported in 1660: "This course (of teaching the letter names) we see hath been very effectual in a short time, with some more ripe witted children, but others of a slower apprehension (as the most and best commonly are) have been thus learning a whole year together (and though they have been much chid and beaten too for want of heed) could scarce tell six of their letters at twelve months' end..." (Hoole, 1660, p. 33).

Hoole devoted a large chunk of his *Petty Schoole* to the problems of teaching the letters, but none of his suggestions could compete for inventiveness with the "gingerbread method," which according to Huey (1908) reissued, was advocated by Basedow in the middle of the eighteenth century. Letters were baked of gingerbread, and

"As he can name he eats the letter;

Proceeding thus with vast delight

He spells and gnaws from left to right."⁵

Huey cites letter-training procedures used by the early Greeks and Romans, including one in which twenty-four slaves were purchased as playmates for a slow learning boy, and each given the name of a letter in the Greek alphabet.⁶ If nothing else, this is evidence that even the children from higher socio-economic levels in ancient Greece had trouble learning the names of the letters.

In more recent times, Huey (1908, p. 313) claimed that "a knowledge of the letter-names will of course not be needed for reading." On the other hand, he felt that familiarizing a child with the letters would not interfere with his learning to read. Anderson and Dearborn (1952, p. 206) who are especially critical of tasks which are meaningless for young children, claimed "learning the letter names serves no useful purpose before the child learns to read."

In Russia, Elkonin (1963, p. 170) found that knowledge of letter names did interfere with learning to read. "Children of 6 to 7 years already know the names of many letters, sometimes the whole alphabet, but they cannot read and if they try to do so simply put together the names of letters. This is one of the worst habits with which many children enter school to begin learning to read and it is necessary to teach them afresh."

In two countries where the teaching of the decoding process is felt to be reasonably successful—Austria and Israel—letter names are not taught until well after the child can discriminate the letters and attach sounds to them. About the teaching in Israel, Feitelson (1965, pp. 27f.) writes: "Once it has become evident that a strong bond of association between any letter symbol and its exact sound value are of utmost importance when teaching reading by a phonetic method, one would think that introducing the letter names as well during the early learning stages might cause interference.... Our classroom observations tended to confirm this assumption time and again."

The Value of Letter Names

Those who favor the early introduction of letter names in reading instruction show little agreement among themselves on the specific benefits of this practice. One argument centers on attaching sounds to letters (Durrell); a second on the facilitation of letter discrimination (Fries); and a third on word identification (Muehl, Olson). In this section the experimental data relevant to the general area of naming will be surveyed, followed by discussions of the evidence for and against the three positions just mentioned.

Naming and Learning. Experiments on the influence of naming and learning and transfer indicate either no consistent pattern, or that the stimuli, the names, the task, the ages of the subjects, and the criterion level of name learning are all significant variables. For motor performance, naming more often than not facilitated both learning and transfer.

Gagne and Baker (1950) gave three groups of college students varying amounts of training in associating letter names with colored lights. During training trials subjects attempted to name the letter associated with a light within two seconds after the light went on. At the end of the two-second period the correct letter appeared on a screen. Training groups, along with a control group which received no training, then learned to press a different button for each of four lights. For this task the training groups made fewer errors and had shorter response times. Gagne and Baker concluded that the effect of the letter association training was to decrease the confusability of the stimuli.

Rossmann and Goss (1951) obtained similar results with college undergraduates on a list of twelve geometric figures, where nonsense syllables were learned as responses to the figures, followed by the learning of motor responses to the same figures.⁷ In both this and the Gagne & Baker experiment, the names had no relationship to the stimuli. Using a slightly different procedure, Saltz and Newman (1960) found that learning component names to a low criterion aided in a mechanical assembly problem with these components, while learning the same names to a high criterion level produced more errors than occurred when no names were learned. In this experiment the actual component names were used.

To test the Gagne and Baker hypothesis on stimuli confusability, Robinson (1955) trained three groups of college students to identify fingerprints. One group learned no names for the prints, one group learned to call half of them "cops" and the other half "robbers," and the third group learned separate names for each of the ten stimuli. The group that learned separate names was not superior to either of the other groups on a same-different transfer task involving pairs of fingerprints. Spiker (1956) performed a similar experiment using figures composed of different numbers of concentric rings, with the number of rings in each figure serving as a label. One group of children was taught the names for the stimuli, while a second group received discrimination training, but no names. In a delayed reaction task

which followed, the younger children (3 years 9 months to 4 years 9 months) who received name training made significantly fewer errors than the young children who did not receive name training; but in the older group (4 years 10 months to 5 years 6 months) there was no difference between the two groups. Spiker concluded that the names helped the subjects produce representations for the stimuli during the delay period, and that pre-training on naming had no effect on the older children because they tended to invent names for the stimuli on their own.

Ranken (1963) hypothesized that naming would facilitate short-term retention of discrete items or sequences of such items, but would result in the loss or distortion of figural information. To test this he trained one group of college students to assign animal names to novel geometric shapes (the relationship of the name to the shape was pointed out), while a second group received discrimination training on the same shapes. Then, one-half of each training group did a jigsaw puzzle task with the same stimuli while the other half did a memory task. A significant interaction was found between the effects of names and the type of problem; the naming subjects did better on the memory task, but worse on the jigsaw puzzle task.

Attaching Sounds to Letters. The most plausible and practicable value for early letter-naming—if a value exists—would be in facilitating the association of sounds and letters. Durrell (1968, p. 5), among others, makes this claim: “Since most letter names contain the sounds of the letters, the ability to name letters should aid in establishing relationships between the phonemes of the spoken word and the printed form of the word.”

If letter names actually aid in attaching sounds to letters, then two different processes could be posited to explain this facilitation. In the first, the letter name is a mediator between the output of the visual recognition process and the stored phonetic (or articulatory) pattern. This assumes that strong linkages exist between the name store and the visual store,

and between the name store and the phonological store, but relatively weak linkages between the visual and phonological stores. Segmentation of the name does not necessarily have to take place in this procedure, nor does the name necessarily have to contain the sound, although this might aid in establishing a stronger name-sound linkage.

In the second scheme, the sound for the letter is extracted from the name itself, a process which is facilitated by those alphabets which are based upon the *acrophonic principle* whereby the sound most commonly assigned to the letter is the first sound of the letter name. This holds, for example, in Hebrew, Arabic, and Greek. In English several names deviate from this principle; the name for *h* retains a sound no longer symbolized by the letter; that of *w* describes its origin from two *u*'s; and *y*, a late addition to the English alphabet, neither its sound nor its origin. (According to the Oxford English Dictionary, the English name for *y* is "of obscure origins." In the Romance languages it is called "Greek *i*"—e.g., Fr "i grec," Sp. "i griega"—while in German it is "i psilon.") In addition, *f*, *s*, and *x* and the sonant symbols *l*, *m*, *n*, and *r* are composed of a checked vowel (/ɛ/ or /a/) followed by the sound symbolized. The remaining consonant names in English are open syllable names based upon the acrophonic principle. However, of the twenty-six letters of English, eleven have at least two common pronunciations each: the vowels *a*, *e*, *i*, *o*, *u*; *w* and *y*, which can be either consonants or parts of vowels (e.g., *beware/dew*; *beyond/grey*); *c* and *g* as in *city*, *cage*, *gym*, and *game*; and *s* and *x* as in *sign/resign*, *fix/exist*. Four others have lower-frequency variants: *d* (*dial/cordial*), *t* (*mat/nation*), *n* (*thin/think*), and *r* (*run/stir*). Of the remaining letters, most have low-frequency variant pronunciations or can be silent; e.g., *h* as in *hit* and *honest*, *z* as in *zip* and *quartz*. In addition, there are consonant sequences which represent single phonemes (*ch*, *dg*, *gh*, *ph*, *rh*, *st*, *th*, *tch*, and *wh* which in some dialects represents a single sound and in others, two phonemes in the reversed order from the spelling).

In summary, sixteen English letters follow the acrophonic

principle, while *f, h, l, m, n, r, s, w, x,* and *y* do not. It should be noted further, however, that the names for all five vowels plus those for *c* and *g* do not contain the sound which is traditionally introduced first for these letters in reading programs. This leaves only nine letters whose names begin with the sound used in initial reading. But even if the English letter names were completely acrophonic, there is some doubt that children, especially at entry to grade one, would be able to segment very easily the first sound from the letter name. Studies by Zhurova (1963/64) indicate that many would not.

Letter Discrimination. In step 1 of stage 1 in Fries's system for teaching reading (Fries, 1962) pupils are to develop an ability "to identify and distinguish the graphic shapes of the letters;" this is to be learned to a criterion of "100 percent accuracy" as demonstrated by "instant and automatic responses of recognition." This, according to Fries (1962, p. 124), "does not necessarily mean attaching the conventional names to these distinctive shapes, although the names are very useful as means of checking the identification responses." Thus Fries makes no suggestion on whether to teach the letter names or not at this stage, but claims that if they are learned they are useful for checking the letter identification response. Yet it is not apparent from the remainder of Fries's instructions for teaching reading where this identification response is to occur, since the only letter-naming task he suggests requires same-different responses to pairs of graphemic stimuli. What might be intended is that after the same-different response is made, names could then be attached to each stimuli and the name patterns compared as a check on the first response. But this is both impractical and beyond the cognitive abilities of most first grade entrants.

From the experiments reviewed earlier on tasks similar to letter-naming it might be argued that names would aid letter discrimination either by reducing the psychological similarity of the forms (Gagne and Baker) or by providing a more retrievable representation of the letter than its figural repre-

sensation provides (Spiker). But these arguments become academic when it is observed that most children at the beginning of first grade can match letters of the alphabet successfully, yet can, on the average, name only about one-third of them. Nicholson (1958), for example, found that for 2,188 children tested at the beginning of first grade in the Boston area the mean number of lower-case letters matched successfully was 24.48, while at the same time the mean for naming lower-case letters for the same population was 9.00. Letter matching was tested by showing a test letter simultaneously with five other letters placed to its right on a sheet of paper. The child was instructed to circle the letter among the five which was like the test letter.

When the test letter was shown for only five seconds and then removed before the multiple choice selections were exposed, the mean for correct responses was still relatively high: 22.12. Similar results for 3-5 year-old children were found by Calfee, Chapman, and Venezky (1972), but with a smaller population. Consequently, teaching the letter names at the beginning of reading instruction could have, at best, a marginal effect upon letter discrimination.

Word Identification

Both laboratory and classroom procedures have been used in attempts to evaluate the effect of letter-name knowledge on word recognition. In a laboratory experiment (Muehl), a word recognition task was constructed from nonsense letter-string stimuli and concrete noun responses, and tested on a small group of kindergarten children. In the classroom evaluation (Olson), a large group of children were tested at various times during their first year of reading instruction on various reading skills, including letter-naming and word recognition abilities. Then, attempts were made via correlations to establish a relationship between these two factors. The results of the two approaches are contradictory.

Muehl (1962, p. 181) hypothesized: "If...(the)...verbal labeling process is the basis for mediating word discrimination and name association, then providing children with a

consistent set of labels in the form of letter names should facilitate this discrimination and association process....”

To test this hypothesis, he trained two groups of kindergartners on attaching names to letters (Task I) and then tested them on the ability to attach common names (*boat*, *sled*, *cake*) to three-letter nonsense strings (Task II). One group learned names for three letters which were relevant for discriminating the nonsense strings, and one group learned letters and names which were irrelevant.

The response data for Task II showed no significant difference between the relevant and irrelevant groups for correct responses, although there was a significant difference for omissions.⁸ From these results Muehl concluded that learning letter names interfered with the task of learning to associate picture names with nonsense letter strings containing these same letters. Aside from the questionable conclusion, the stimulus items used by Muehl deviate from what is found in a true word recognition task. The stimuli were non-familiar three-letter strings: *yml/yfl/ygl/* and *ygl/yul/ydl*, where only the middle letter was necessary for discrimination. According to word recognition studies by Edelman (1963) and Marchbanks and Levin (1965), letters in the middle of a word are used as cues in word recognition much less frequently than letters at the beginning or at the end. This may account for the failure of any group to achieve even 50% correct responses on Task II. (If we assume that the children learned the three responses—*boat*, *sled*, *cake*—on the familiarization trials, then for the 16 trials in Task II, a mean of 16 should represent blind guessing. The actual means varied from 17.81 to 22.61, which indicates that very little learning took place for any group.) In addition, labels for only one of the three letter positions were learned by the relevant group; yet in reading, a person who knows letter names would have a label for each letter in a word. What effect this would have on Muehl’s experiment remains to be tested. Arguments for either greater facilitation or greater confusion seem equally valid.

Furthermore, what significance to attach to the omission

data is difficult to determine. Muehl attributes it to competitive blocking: the letter name is the dominant response to the critical stimulus element and therefore must be displaced by the word-name response. This argument would be valid if the irrelevant group had made significantly more correct responses than the relevant group—but they didn't, indicating that neither group was overly attentive to the critical stimuli. In short, this study failed to find a significant effect for letter-name training on word recognition. More recent studies with first-grade children by Samuels (1972) and by Jenkins, Bausell, and Jenkins (1972) also failed to find such an effect.

In a study by Olson of the reading and reading-related skills of 1,172 first-grade children, letter-naming ability in September correlated highly with oral reading ability in February. Furthermore, it was found that of the 119 children from this group who could not name 20 or more letters in February, only nine could identify 70 or more words in a word recognition task. From these data Olson (1958, p. 35) concluded: "While a knowledge of letter names does not always assure high reading achievement, the lack of that knowledge assures low reading achievement. Apparently a child must have a knowledge of letter names long before he masters 75 words." But there is no evidence from this study that lack of letter name knowledge caused the word recognition deficit. Both, for example, might result from a poor attendance record. Nevertheless, it is puzzling that letter-naming ability at the end of kindergarten or in September of first grade has been found by a number of studies to be one of the best predictors of reading success not only at the end of first grade, but as late as third grade.⁹

Two plausible explanations for this relationship have been offered. The first is that letter-name knowledge itself facilitates the acquisition of literacy, therefore the child who comes to the reading task with this ability is already one step ahead in the game. If this can be shown to be true (although none of the evidence cited so far indicates that it is), then the obvious conclusion is that all children should be taught letter

names in kindergarten or before. But this brings up a second question: why do some children know letter names when they begin school and others not? Solely because of differences in home environment? Or do some children who receive continual encouragement and training for this task in the home still fail to acquire the ability? At this point in time we know almost nothing about the learning of letter names, other than the general developmental pattern during reading instruction. The statements quoted earlier in this paper on the learning of letter names in previous centuries indicates that this has always been a difficult task for many children, even those from the higher socio-economic levels. Furthermore, studies by Ohnmacht (1969) and Johnson (1970) on the effects of letter-name instruction on reading achievement (grade one) have failed to find a significant advantage for letter-name training over other forms of initial training.

The second and more acceptable explanation is that letter-name knowledge at the beginning of first grade reflects the presence of a variety of factors which themselves are important for learning to read; e.g., level of cognitive development, emotional stability, attention span, and proper interaction with adults outside of school. By this reasoning, concentrated drilling on letter names for children who lack any of these factors will not lead to a major improvement in reading ability, even if the letter names are acquired.

Conclusions

A heavy emphasis on letter-name learning in either pre-reading or initial reading programs has neither logical nor experimental support. Letter-sound learning, word recognition, and reading ability in general do not appear to be affected in a major way by letter-name instruction, and while one could quibble over the particulars of the experimental evidence for these conclusions, it is unreasonable to expect to find a robust letter-naming effect through replication or expansion on the studies surveyed here, especially since not a single one supported letter-naming instruction. This is not to say that children should not be taught letter names, or

that letter-name instruction per se is harmful. Letter names are convenient but not indispensable labels. What needs to be discouraged is an overemphasis of letter-name learning, especially at the expense of other essential learning experiences. The inner-city child who lacks exposure to books and reading will not be greatly aided by letter-naming drills, nor will the child who fails to grasp the essentials of decoding or word discrimination.

On letter names as predictors of later reading success, we know very little at present. The first set of data needed are those that would show for which age, I.Q., and socioeconomic levels this relationship is valid. Then, we would need to explore the source of the relationship—is it an indicator of more basic skills, or does it result from the intrinsic value of the names themselves? But whatever value is found experimentally for letter-name knowledge—be it positive or negative—letter names will probably remain as an integral and inseparable component in the popular concept of reading instruction. Certainly Juliet did not consider letter names in declaring: “What’s in a name? That which we call a rose by any other name would smell as sweet.”

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²The discussion which follows is based primarily upon Diring, 1968, Vol. I, and Gelb, 1952, with additional notes from the *Oxford English Dictionary*.

³Although the ordering of the letters dates from at least the fourteenth century (B.C.E.), the use of this ordering for alphabetization is relatively modern. For a thorough synopsis of this topic, see Lloyd W. Daly, "Contributions to a history of alphabetization in antiquity and the Middle Ages," *Collection Latomus*, 1967, 90, whole issue.

⁴Cited by Mathews (1966), p. 11. See also Huey's brief notes on Quintilian (Huey, 1908 reissue, p. 241). The original source for both Mathews and Huey is *Quintilian's Institute of Oratory*. Literally translated with notes by the Rev. John Selby Watson, 2 vols. London, 1875.

⁵Huey, p. 241. The three lines cited here are, according to Huey (p. 241 fn), taken from "Alma," Canto two, quoted from R.R. Reeder, "Historical Development of School Readers and of Method in Teaching Reading," *Columbia University Contributions to Philosophy, Psychology, and Education*, VIII, No. 2 (1900), P. 92.

⁶Huey, p. 241.

⁷This study may have been contaminated somewhat by the use of electrical shocks.

⁸On the pretraining of letter names, 41 of 87 children failed to reach criterion.

⁹Although letter-naming is apparently one of the best single predictors of reading success, and clearly superior to either chronological age or I.Q. in this role, its absolute value varies widely from study to study. Wilson and Flemming (1938), working with 25 high-I.Q. children (mean = 120.6) in the Horace Mann School in New York, found that the rank-order correlation between naming lower-case letters in the fall of grade one and reading ability in the following spring (as measured by standard reading tests) was .594. On the other hand, DeHirsch, Jansky, and Langford (1966) found that for children with I.Q.'s greater than 106, the product-moment correlation between letter-naming ability in kindergarten and reading ability in grade 2 was .37. It is difficult, however, to find two studies that tested the same age-levels and employed the same testing instruments. For a review of these studies, see Chall, 1967, pp. 140ff.

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C D B!



O-L H.



D B S A B-Z B.

O, S N-D!

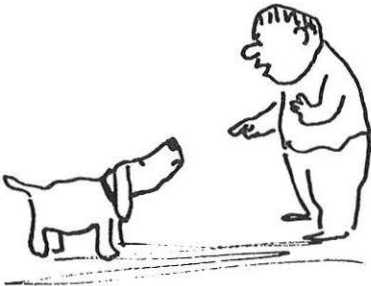
K-T S X-M-N-N D N-6.



I M A U-M B-N.

U R N N-M-L.

I M C-N A G-P-C.



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