# CHAPTER SIX
# BECOMING LITERATE

In becoming literate one is learning to read and to write at once and one through the other. So before taking them up separately in later chapters we will interweave them here.

## PREPARATION FOR LITERACY

If a person wants to learn to read and write, he can do so at any time after some minimal sensorimotor development. He can also do so in a short time, depending largely on the strength of his motivation. Some young children have learned to read and write in three or four weeks, which shows that literacy acquisition does not inherently have to take place slowly, however long it may drag on for many other children. Literacy grows as the mind grows, but it can begin at virtually any stage of mental development.

The opportunity to learn to read and write should be offered children at every age from babyhood on. The key word here is *offered.* No child should be forced to try to become literate, whether ready or not, just because he has arrived at a certain chronological age. Encouraged, yes; surrounded with a literacy community, literacy materials and books, occasions to get involved, people who can help him seize the occasions, yes. But schools cause real tragedy in many lives by forcing certain first graders to try to read and write, because many such children experience only failure in school from then on and drop out later. Not only do they miss the benefits of literacy, but they may harbor all their lives feelings of resentment and inferiority.

The chief reason for this forcing, despite the better judgment of many teachers, is that any first- or second-grade teacher whose children do not all show certain reading scores by the end of the year may risk criticism. Many parents as well as administrators pressure teachers to get a child reading in kindergarten or first grade, and some minority parents suspect discrimination if a teacher doesn't force their child. Much practical evidence indicates that some children could learn with greater speed and ease if they simply waited a while, but such a policy would have to be understood by both parent and administrator, so that the first would know that in the long run his child would read better than if he had started in the first grade, and the second would know that the teacher had not failed with the child but had simply not forced him.

At every stage of his development a learner approaches new intellectual challenges that he might or might not take on then, depending on whether others guide and support him or whether certain activities become available that make a fit initiation for him into this greater social or cognitive maturity. We don't know which learner is ready for which new challenge until we have surrounded him with all possible means for meeting it. You don't have to decide if a child is ready but merely have to refrain from forcing or blaming him, at the same time giving him every opportunity to learn literacy. Everyone involved should assume that in time he will. It is true that other schoolwork presupposes after a year that a child can read, but a child offered every opportunity is not going to read yet anyway, however forced.

What we're recommending here is not, of course, indifference or casualness but an expectation that individuals will vary in their timing, so that if some don't take to literacy immediately, no one panics or thinks that either the child or the teacher has failed. If you individualize literacy, using the means proposed in this chapter, few children will be able to resist it; and most pupils will in fact learn to read and write sooner than has been true with forced standardization.

## ■ SENSORIMOTOR ABILITY

Becoming literate requires, and at the same time further develops, auditory and visual discrimination—the ability to identify and distinguish different sounds and different shapes. It also requires control of fine muscles in the hands for writing, though children certainly don't have to wait on this development to write if keyboards, letter stamps, and manipulable letters are available. Many activities and materials described in this book can aid sensorimotor development, but virtually any sort of play, socializing, and other activity will also, including coordinated movements like crawling and drawing. What best develops auditory discrimination is hearing meaningfully distinguished sounds, and for this human speech itself can't be bettered, but musical tones and any other arrays of significant sounds that interest the child will help.

The real secret is to enrich the environment so that children can be constantly manipulating interesting objects and comparing them for their shapes and sounds, among other features. Exploration and comparison are the key, and this occurs best when children can experience a lot, be active, and have access to a large variety of things to handle and play with. It seems to be true that sharpening one part of the sensorimotor apparatus sharpens the rest. The nervous system is interconnected and grows as a whole. So refinement of touch or muscle action of any sort, for example, will probably help handwriting, as any auditory and visual experience will help reading. In fact, development of either muscles or senses seems to develop the other, because of the close coordination that using either requires, as in writing.

## ■ EMOTIONAL AND EXPERIENTIAL SETTING

Like other learning, emergent literacy benefits from a framework of motivation, emotional maturity, and general experience with people and things. To develop these, children need to be talked with, read to, and taken places. They need direct experience with some of the physical and social things that books talk about. They need to handle books, turn the pages, and look at pictures. They need to

draw a lot, because for children writing begins as just a special way of making shapes. Indeed, reading and writing generally just extend other sorts of exploratory play. So children need to discover the pleasure and information in books, become aware of environmental writing such as signs and labels. Older youngsters can understand how literacy may be necessary for getting a job and generally getting around, but small children unable to foresee these utilitarian possibilities must feel pleasure awaiting them in print, find out that locked in the letters are wonderful stories and funny games and things they want to know.

It's terribly hard for one teacher alone to give a roomful of children all the experience that naturally accompanies literacy. You can read to them, let them talk a lot, give them objects to play with and picture books to look through, and take them on visits. You can make the class interactive so they can pool their understanding, practice oral language, and grow socially. But you can go much further by mixing them with more developed youngsters and by bringing other adults into the classroom. Even peers differ enough for some to lead along others, but the limitations of segregating by age never manifest more strongly than during emergent literacy, where rippling could work most effectively. The notion of joining a community of readers and writers can hardly apply to a situation in which the learners are roughly all in the same boat—preliterate!

## VISUAL PROCESSING OF TEXT

What are the best *means* of becoming literate? To deliberate this, let's go back to what we said in Chapter 1 was the only thing unique about reading—the visual processing of text. Consider a bit more this interaction of incoming visual cues with previous knowledge of grammar, meaning, and spelling. The proficient reader does not give equal attention to all words or to all parts of words. He doesn't need to. There are many cues of syntax, sense, and word structure that make it unnecessary to process every letter, word, and phrase in the same way. In a very real sense, we don't see everything in a text even when we "read" every word of it.

For example, proofreading for typographical errors is very difficult because we unconsciously "fill in" the obvious—the letters we know are there because of how the rest of the word is spelled, articles and prepositions we know are there because nothing else could occupy certain slots in the sentence. This means that if errors exist in these obvious positions, we may well miss them. Familiarity with the text makes proofreading even more difficult, because we fill in even more.

For another example, the cloze procedure of deleting some letters and words from a text doesn't prevent readers from getting all the meaning of it—provided that deletions are of redundant items, that is, of items that are dispensable because their information is conveyed equally well by other cues. If more important items are deleted, however, the text will become ambiguous or cryptic. Compare:

_ole_ant
tol_ra_t

Surely the letters deleted in the first were more essential, while those in the second were more redundant. Compare also:

I _____ have found it _____ to believe.
I would _____ found it difficult _____ believe.

But redundance is relative to the knowledge and experience of the reader:

Give _____ this _____ our _____ bread.
Marx's theory of historical _____ derives
from _____ 's concept of thesis and _____.

Scanning and guessing, in short, are integral to proficient reading. Swiftly, automatically, we attend to critical cues and infer what is in between. As we are reading along, we constantly corroborate inferences by matching them against our ongoing interpretation. Occasionally, when something doesn't seem to fit, we "regress"; we flick our eyes back to a word or phrase and discover, for example, that what we took to be *importing* was actually *imparting*. This is not mere skimming or sloppy reading; it's what every proficient reader does, including those whose comprehension is best. See pages 162–163 for an extended example of following syntactic and semantic cues.

Actually, not all of this perceptual/mental scanning is unique to reading. When we listen to someone speak we attend in the same selective fashion and have no more need to "hear" every syllable in order to understand everything said than we need to "see" every syllable when reading. Both seeing and hearing partake of the same general data-processing system. But there are differences too. One is that reading involves eye movements. Another is that reading concerns arrangement in space, whereas speech concerns movement in time. We can assimilate spatial information faster than temporal information—read faster than listen, which is one reason we come to bypass the intermediary of speech in the fusion of sight with thought that we spoke of in the first chapter.

The big pedagogical question is how the beginner crosses the oral bridge to reach that point of proficiency knowing only the sounds of the language and not the spellings. How does he learn enough of the sound-spelling correspondences in the first place to set the circular process of cueing in motion? Some priming of the pump, it seems, should be all that is needed to aid learners to teach themselves to read. Is some sort of phonics in order, then?

But many children have learned to read and write splendidly with no phonics at all. In fact, some of the most avid and proficient readers learned so spontaneously, often at home, that neither they nor their parents knew how or exactly when it happened. So why the high national illiteracy rate and the constant struggle in schools to achieve even this low rate? We partly answered this on page 43 in comparing learning to speak at home with trying to learn literacy in school. Motivation to learn the *first* medium of communication is much stronger than to learn literacy, and learning to read and write is usually attempted in school, where institutionalism interferes with natural learning processes, which are interactive and integrative. Institutions tend to atomize an operation into small pieces and then to line up these pieces into sequences. Phonics fits both this and the industrial model of assembling small parts into successively bigger assemblies until this culminates in a product.

Well then, how *does* a beginner learn enough sound-spelling correspondences to play these visual cues in with the syntactic and semantic cues? Unless the learner is going to memorize spellings one word at a time, he's going to have to recognize *parts* of some words in order to recognize them as wholes. The contending factions in reading pedagogy fall out according to the size of the language unit that should be the learning unit. Should the student hear and see at once sin-

gle sound-spellings (phonics) or single words ("look-say"). Or should spellings and words be introduced only in complete texts ("language experience" and "whole language")? Clearly, the smaller the unit, the less context and hence the fewer cues. The larger the unit, the more meaning and hence greater motivation. In practice, these approaches have usually been combined.

Indeed, all but phonics correspond to actual reading practices, since reading even single words and sentences occurs all the time out of school, as in signs. Phonics is the only claimant for teaching reading that is not something proficient readers also do. As only a means, in other words, not a goal of reading, phonics is the hardest of the competing methods to justify, and so the advocates of it must bear the burden of proof. Phonics is also the most expensive, because units smaller than whole words require special materials, whereas complete texts, even if only signs and captions, already exist. (If other "reading instruction" programs cost more, it's because they collage together any number of miscellaneous practices and materials.)

Any activity that allows learners to match speech with text will probably help them read, whatever the size of the language unit, and some children have succeeded in programs heavily emphasizing phonics. But this doesn't mean that all such activities are equally good, especially for all people. Which is most efficient? Which generates the most negative side effects? But especially, which *might* be dispensed with. Not whole-word and whole-sentence activities, which will inevitably be part of a literacy program anyway, because they are themselves target activities. As purely a learning device, only phonics may be deemed optional. For the same reason, it incurs greater risk of such side effects as aversion, "word calling," or mental myopia. Not surprisingly, then, there's some evidence that heavy emphasis on phonics impairs reading comprehension.

So if teachers arrange for learners to see and hear texts simultaneously in units large enough for meaning and motivation, we have now some literacy "methods," familiar activities actually, quite common out of school. Reading to learners, for example, will allow them to match visual symbols with oral speech—if the learners are watching the text being read. So will writing down their speech while they watch.

But we still face the lingering question about whether phonics is needed to break down these larger language units so that learners can eventually recognize new words reading alone and spell when they write alone. Let's begin to answer this by considering what goes on in the learner when being read to or having his speech transcribed. We'll do this in the process of offering these activities as two major ways of becoming literate. Then we'll pursue the question afterward when setting up a third method.

## READ-ALONG OR THE LAP METHOD

This method consists simply of watching a text at the same time one hears it read aloud, as a young child does on a parent's lap. It may very well be true—and we suspect it is—that given words enough and time, virtually any person might learn to read by this method alone, if in the beginning he followed with his eyes a moving finger that allowed him to synchronize the sound and the graphic symbol, voice and print. One question might be whether a public institution can ever flood each child with the copious flow of love and words it takes to induce such sponta-

neous learning. By arranging properly, we think it can. The teacher's lap is not the only one, nor his the only literate voice. For younger children there are the real laps of aides, including older children, and for both older and younger learners there is the figurative lap of the phonograph or tape recorder.

## ■ HOW IT WORKS

How can a person learn to read independently just from being read to? All while listening to a story for pleasure, the child may be visually processing the text in whatever way he is able. He may be just looking at pictures and turning pages, approaching reading by successive approximations. Or he may be scanning the letters for those that are in his name or another familiar word. He may be memorizing the content of whole pages, then gradually analyzing the big blocs of print, discriminating among the different words, and narrowing his synchronizing focus down more and more—from the whole page or paragraph to the sentence, then to the phrase or word, then eventually to each of the forty-odd phonemes of English.

Beginners can eventually generalize for themselves the phonographemic regularities—how letters render sounds—as they generalized for themselves, well before entering school, the basic grammatical rules about word endings and word order, which have to be figured out, not merely memorized. Human beings are born with such analytic-synthetic ability, so to see it operating on printed words, as on other arrays presented to them, should occasion no surprise. If an infant did not analyze speech sounds and match them off with meanings, he would never start to speak. It may well be that if many learners seem to need others to help them analyze words and generalize the sound-spelling regularities, that may only be because schools have never afforded students the huge amounts of ore it takes for that kind of refining. This is our point in calling for massive practice and total immersion.

Let's take the classic case of the preschool child at story time at home. The book is a child's book, and each page bears only one or two sentences, sometimes only a word or so, usually illustrated. The effect is of a series of captioned pictures. Hearing the story over and over, held on the lap so he can see the page and hear the voice right at his ear, he virtually memorizes the text so he can tell the reader when to turn the page and whether he left something out. He knows which part of the story is on each page and so has synchronized at this gross level.

But many things help him to match off oral words with written words much more precisely—the typographical isolation of some words on the page, the repetition of words that he can at once see and hear, the prominence of some words printed large or naturally set off by front and end positions in the sentence. Often he asks to have pointed out a printed word standing for something he is especially interested in. Or the person reading may habitually move his finger by the words as he reads them. Some words are used to label or caption or title things in the book and so stand out also.

One way or another, he memorizes a number of whole words by their overall look, and this is an important part of the read-along process, since many irregular words have to be memorized and, once known, can be used to help figure out more words and eventually the regularities of English spelling. Once a few words can be recognized roughly, they serve as bench marks to keep the child synchronized. Then the process snowballs very fast: the more words he can cue from, the

more the young reader can synchronize sounds and sights right into the interior of words and thus begin to analyze them into their components. He finally notes, for example, that the same sound occurs every time he sees *which*, *what*, or *where* and infers that *wh* stands for that sound. This is do-it-yourself phonics. Even with no sound-letter instruction at all, a person can learn to read and spell entirely from the lap method—but only, in most cases, after many, many hours of hearing and seeing the same or similar words recur.

The very lack of self-consciousness and of formal instructional situation that so long caused this method to be omitted from the official repertory of reading methods accounts partly for its great success. The learner becomes rapt and relaxed. Within this deep absorption, the mind unconsciously works over the data and begins to infer the sound-spellings. To use the lap method in a school situation means arranging for this same pleasurable absorption, protected from pressure or conscious striving. Don't be fooled by the apparent easiness; children do most of their deepest learning in just this undeliberate way.

## ■ TEACHER READING

Simply reading aloud to students is very effective. They learn to create images in their mind, as they must do to read well. Once accustomed to hearing stories read, and motivated by the pleasure to want to hear more, they will find it natural to start looking at the text and will usually want to take over eventually and read for themselves. Children gravitate to texts they have heard read.

When reading to groups, teachers find "big books" a practical and engaging way to use this method, since everybody can follow the text together. Children enjoy repeated readings of favorite big books and, once familiar with one, can help you read it. If you use a pointer as you read each word, the children will be encouraged to focus on the match between the sound of the words and their corresponding written symbols. Read for the natural flow and sense without letting the use of the pointer slow down too much or break up your rhythm, intonation, and expression. For beginners, choose texts, like "The Little Red Hen," that have the kind of incremental repetition children like, because repetition helps them recognize and cue off certain words. The rhyming and typographical form of poems are good for this too.

Older students who are weak readers or "nonreaders" also enjoy being read to as they watch the words of an interesting text or their own student-produced papers projected on an overhead projector. If students have written poems or raps, the teacher or student writer can lead the class in a choral reading of the texts together. For more on choral reading, see page 184. Weak readers can watch the text as you read pieces that are too difficult for them to read on their own but that are mature enough in content to be interesting and not perceived as "babyish," as texts on their reading level might appear.

As you read, all the students have to do is follow. Thus dependent students of any age can go ahead and be dependent but at the same time begin to gain the means of independence in a very unthreatening way. Students who have apparently failed to read usually recognize some words and so are at the point where the snowballing could start any day. They can follow known words well enough to be pretty sure of looking at the unknown words at the same time you are sounding them. The read-along method is limited to no age and may prove especially useful

for older students who are supposed to read but don't. It can lead nicely into partner reading as described on page 155.

## ■ STUDENTS READING

More mature readers in any class can read to the others. Even in first grade, some children are able to read fairly well either by the time they enter school or soon afterward. In succeeding years, the spread in literacy ability broadens so that it should be increasingly easy to find adept readers to give the lap method to their peers (and without the curse of it seeming babyish). Besides freeing you to individualize, student readers add the appeal of peer interaction.

Arrange for a strong reader to read aloud to one or two others still learning. Let them choose a text and settle in somewhere comfortable in such a way that the listener(s) can easily see the text. If it doesn't interfere with their delivery, the readers might move a finger along the text to synchronize listeners who need it. If you feel your readers are a bit shaky themselves, have them rehearse their texts with each other to work out kinks.

Even if you can muster enough good readers from within the class, arrange for older students to come into your class periodically to read in this way. Small children love to have the attention of older children and want to emulate what they can do. Since this kind of pairing has other uses that we will mention later, you could make standing arrangements with other teachers about pooling your students together. In our experience, wherever this arrangement is used teachers become very enthusiastic about it, and the older students gain confidence and a sense of self-worth.

## ■ AIDES READING

The read-along method is a major and staple way in which parents, student teachers, or community helpers can contribute substantially without either teacher or aide having to prepare on a given day. All that is required is that the person be a competent reader. Although a special time might be set aside for aides to come in and read, an individualized classroom can avail itself of aides at any time, which is more effective and convenient all the way around. Just explain to aides the importance of students seeing and hearing the text simultaneously. For bilingual children, an aide who is fluent in their heritage language can translate from the English text where needed to speed up comprehension, but having the story read aloud in English will itself speed up this transition from one language to the other.

## ■ RECORDED VOICE

Recordings enable students to look-and-listen independently of other people. This makes individualization possible when live readers are not numerous enough. Recordings also save face for students old enough to have learned to read but still unable to, who feel ashamed being read to by another person. Best of all would be to have both people and machines available. Some youngsters will prefer one to the other, and sometimes one or the other will fail you. See page 59 for getting recordings and page 150 in *READING* for more on this method.

# THE LANGUAGE-EXPERIENCE APPROACH

The language-experience approach might be described as the writing counterpart to the read-along method. The learner dictates something he has to say to a literate person who writes down the words verbatim so that the learner can see how his oral words look as text. Like the read-along method, only in reverse, this provides the learner with a literate person who can mediate between the learner's oral knowledge and the strangeness of written language so that he can learn to translate between media himself. The name that has been attached to this method over the years by its many practitioners refers to the fact that the content of what is written comes from the learner's own verbalization of his own experience.[1]

## ■ BASIC PROCEDURE

Posted or set forth on an activity card for the use of both aides and students, the directions to the learner can go like this:

1. Sit down beside your helper so that you can watch him write.
2. Tell your helper the title of your story. Watch him write it down. Tell your own name next.
3. Now tell him your story. Watch him write it down.
4. Read your story out loud with your helper. Help him put in any punctuation marks that will make your story sound the way you want it to be read.
5. Trace over the letters with a high-lighter pen.
6. Then read your story to a friend while he looks on.
7. Draw pictures for your story and post it on the display board or put it into a booklet with other stories.

The aides or other scribes should use manuscript printing to model the first type of handwriting that children will be producing in school. Explain to these scribes that since the normal intonation of speaking often gets broken up by dictating, they should ask for repetitions to check on how to punctuate the speech flow. Step 4 should help too. If uncertain, the scribe should read the phrasing a couple of ways, ask the speaker which is right, then perhaps explain the difference the alternatives make in punctuating. Direct scribes unsure of spelling or punctuation to check with you. It's important for student scribes not to mislead the learner, but it's also important to make checking matter-of-fact so that the scribe doesn't lose face in front of his charge.

The content of a dictation can of course be anything. Younger children usually apply "story" to practically anything they have to say. The material can be a recent incident, a made-up tale, a list, a caption, a description of a pet or parent, a certain routine, a favorite object or person or activity, or directions for how to make something or play a game. Sometimes members of small groups will tell something they did together.

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[1] The chief exponent of the language-experience method is Roach Van Allen. For models for designing activities, see Roach Van Allen and Claryce Allen, *Language Experience Activities*, 2nd ed. (Boston: Houghton Mifflin, 1982).

A lone scribe may gather a group aside to the chalkboard or around a large easel tablet or computer monitor and write down or type what the group agrees to say. This can be functional, as when class news is being recorded, a log is being kept on some class project, or some letter is to be sent. Easel sheets are good for posting as class reading. The scribe repeats, as he writes, the words the group decides on. Though less potent than one-to-one, this is worth a lot and leads easily into collective writing later (described on page 201), where a student becomes scribe. The scribe can prepare for this by sometimes asking the group for spellings and by letting those who know them write them in.

The great advantage of dictating while watching is that it places the learner in the writer's stance so that he watches each letter being written down as his speech is literally spelled out. This can be an effective way for the speaker to learn sound-spelling correspondences, especially since the personal content makes for very high interest and close attention. Then when he traces over the letters, he further adds the transcribing role to his authorial role. After thus creating a text he reverses roles and becomes an interpreter of a text. He reads the transcript back, with and without help, aided by the memory of his own words.

Aside from offering learners opportunities to generalize spelling, the language-experience approach helps them very much to memorize the overall look of words. It parlays sight-word into a continuous, meaningful process. The speaker is seeing how highly irregular words are spelled. Such words require memorization, and again, whole-word learning aids identification of word particles as well.

## ■ USE OF AIDES

Like any whole-discourse approach, language experience requires a vast volume of practice before most learners can generalize well the sound-spelling correspondences. But this volume is not impossible in school. With one teacher to service twenty-five to thirty-five pupils in the traditional classroom, it's a tribute to the effectiveness of the approach that it has worked as well as it has. Dictation can become a much more powerful force in literacy if every learner has the opportunity to dictate something almost daily. Like the lap method, language experience is simple and cheap and anyone who can read and write himself can implement the method. Neither has often been fully realized, however, because even avid proponents have seldom made way in the classroom for enough outsiders to come in and work one-to-one all the time.

Unlike the read-along method, the language-experience approach allows little choice between human and mechanical means. Until such time as schools have computers that type out words when someone speaks into them, we will have to rely on people to take dictation—parents, student teachers, seniors and other community volunteers, students from upper grades, and more advanced classmates. (Human means are preferable anyway.) Some teachers make the same arrangements to engage scribes from outside as to engage readers, and often the same people do both and perhaps other things as well on the same occasion. One easy way to arrange for this is to exchange halves of the class with a classroom of older youngsters who buddy up with the younger pupils. (A side benefit is that the older students get purposeful practice in transcribing and proofreading.)

## ■ WRITING DOWN SINGLE WORDS

An extremely valuable literacy practice is to write down for students words that they ask for at any time. The chief advantage of dictating-while-looking lies in the student's involvement with the words he proposes. This extra interest ensures heightened attention to the overall look of each word, for whole-word memorization. So arrange for you and aides or other students to habitually write out on request whatever words a learner wants. Don't worry about spelling difficulty and rarity. The point is that the learner has some cherished or fascinating word that he wants to possess visually as he already does orally and emotionally. Give it to him. Make a lot out of the process of collecting words, remind the students constantly that they can do this, and keep connecting their growing stock of word cards with activities that call for them.[2]

### WORD-CARD COLLECTIONS

Give each student a little drawstring bag or box or ring that opens. Give him also some manilla tagboard or other paper of fairly heavy stock and direct him to cut out some blank word cards approximately two by three inches. Whenever he asks for a word, write it on one of his blank word cards and tell him to trace over the letters with crayon or porous pen of his color choice. Or, depending on how advanced the student is, you might spell out the word orally as he draws or stamps the letters on the card. In either case, have him say the word while looking at the spelling. The learner keeps the cards in his bag or box, or if he has a ring, punches holes in the cards and strings them on the ring. Emphasize possession: these are *his* words. Sometimes the words have another, immediate use such as to label some object the student keeps in the classroom or at home or some item in a display he has made.

This collection has many uses. Classmates can compare, trade, copy, and borrow cards. They can use them to make playing cards by drawing or pasting on these or larger cards pictures of things that the words refer to. They can make sentences with them on a flat surface. Then they will discover that they lack dull but necessary words like simple verbs, prepositions, and conjunctions, for which they now have a need and can also ask.

Partners can turn word cards face down and take turns picking them up one at a time and reading them as the other tries to spell them back. They can spread them face down on the floor then try to guess from memory where each is, saying the word first before turning a card over. They can alphabetize their cards, following the order of a simple dictionary if they need to, then copy off the words in order onto pages of a blank booklet. Add illustrations and they have their own dictionary. Partners collaborating on one dictionary will pool their word cards and thus learn new words. There are many other uses to which these cards can be put, and students can increase their stock of words by copying favorite words from signs, games, books, and so on, once the words have been identified for them at their request.

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[2] See Sylvia Ashton-Warner, *Teacher* (New York: Simon & Schuster, 1963) for her fine development of this activity with Maori children.

### CHARTS, CAPTIONS, MAPS, LISTS

Youngsters often want to know how to write words as part of a project they're doing. A number of such activities are described in *LABELS AND CAPTIONS*. Encourage children to label the parts of some drawing they have made and to ask either you, a classmate, or an aide for the spellings. Often they want to label something they have made or caption a story picture they have drawn. Launch them into keeping charts of the growth of a plant or the behavior of their pet or the weather and other activities described in *TRUE STORIES* and *INFORMATION*. These can be done by small groups too. Charts often call for single-word entries and repeat some words, which help learners recognize them.

Launch map-drawing also, another type of graphics that requires labeling of parts and captions. Proper names and titles offer an opportunity to teach capitalization also. In this regard, students can start keeping name and address books of friends and classmates. They dictate these, collect them on slips or cards, alphabetize and make booklets out of them. Accustom students to reading all such words to someone soon after you write them down.

## ■ SCRIBING FOR ALL AGES

Like reading aloud to students, taking dictation from them is so associated with primary school that you have to be careful to keep older students from feeling that it's childish. Scribing is a major literacy method, and many older students need all the literacy strategies available. It shouldn't be limited to the early years simply because that's where it's first used. Some older students, in fact, are so gun-shy of books and paper after failing to read and write for many years that dictating may be by far the most appropriate method for them. Pairing the nonreader off with a literate peer may work for some. Others may prefer you or an aide as scribe.

Since collective writing is a common activity in this curriculum, it can provide cover (see page 201). Counsel reluctant writers to participate frequently in such groups. Suggest in conference alone with them that they contribute a lot there by dictating things to say and that they make a point of watching the scribe write down their words. Point out that by doing this they can learn to write for themselves. Say you think dictating to others will help them learn; then ask how they would like to go about it.

Another possibility is for such students to talk into a tape recorder then watch as someone else transcribes the tape. This adds a degree of indirection that may suffice to forestall embarrassment for some. Some teachers arrange for students' tapes to be transcribed and returned to them. Though not as effective as watching a scribe, this can draw reluctant students into writing and provide them their own words as reading matter.

Being read to and dictating are temporary substitutes for reading and writing. By means of them, the beginner learns to match off speech with print within himself. Next, he reads to himself and dictates to himself. Finally, as we said, he even dispenses for the most part with his own internal oral intermediary as literacy becomes second nature. This progression from vocalizing a text to subvocalizing to nonvocalizing seems to us a paramount truth of literacy growth. It's implemented simply by letting a literate person translate for the learner between voice and print while the learner participates and emulates the helper, who serves also

as a role-model. The Balinese dancers teach their youngsters by holding them from behind and moving so that the youngsters' bodies move with theirs until a time when the adult steps back and the learner continues moving on his own from within. This internalization from the social to the personal seems a natural, effective way to learn to read and write as well.

## THE READING IMPASSE

By way of working up to a third major way of becoming literate, let's resume the question of whether beginners need to learn some sound-spelling correspondences directly, in isolation.

Some educators are ruling out absolutely any teaching of phoneme-spellings on grounds that proficient readers recognize words as wholes without delving into the letter constituents of the word, and that literacy learners of ideographic languages have no other alternative. But the fact that the Chinese *must* learn to memorize words one by one because their language has no alphabet hardly compels speakers of other languages to follow suit by failing to make use of an alphabet when they do have one. And it's not true that memorizing the look of thousands of separate words amounts to no more than memorizing the look of thousands of miscellaneous objects in the environment, which children routinely do. The words are part of a system: knowing the letter components of some words helps one to recognize other words. It's in the nature of the human mind to create or to utilize systems.

Nor is it true that the English system of spelling is so irregular as to be of no use in becoming literate. Just a *partial* knowledge of sound-spelling correspondences will allow most people to learn to recognize new words. A little letter knowledge can go a long way, as we've indicated, because it interacts with other cues. Despite all its irregularities, English provides quite enough consistency for this *minimal* letter knowledge.

Research on what proficient readers do doesn't tell us what they did to become proficient. At some point previously, adept readers did have to focus within some words and use some knowledge of sound-spelling correspondences to identify those words so that they might recognize them as wholes in the future and might interplay them with syntactic and semantic cues.

Now, this sound-spelling knowledge might have been acquired by the two methods we have just proposed and by the means we ascribed to them—that is, by a combination of memorizing words as wholes and of analyzing whole words into their component sounds and spellings while reading along and dictating. But many educators remain unconvinced that *all* beginners will become literate by these means alone, unsupplemented by some sort of phonics. School experience and research comparing methods, they say, indicates that if some phonics isn't included, some students don't make it. (Note in passing that contending theorists can both cite research findings to support their position.)

Not all people learn the same way. Some seem less able than others to analyze words and generalize sound-spelling correspondences for themselves and may need these taught to them explicitly. But this apparent disadvantage may simply reflect the fact that read-along and language-experience have not figured prominently enough in the literacy methodology of schools to have fully proved themselves for all types of learners. Even their staunchest advocates have rarely succeeded in implementing them as fully as we have proposed here, because packaged programs

have, in most schools, kept both in a marginal role. Neither formal research nor general school experience is conclusive enough to settle this controversy.

## INDEPENDENT WRITING WITH INVENTED SPELLING

It's time to turn now to the more neglected half of literacy—writing—and to how it may actually lead into reading rather than wallow in its wake. Up to this point we have considered phoneme spellings only in relation to reading, which leads to an impasse in the controversy. Deliberately we have let our line of thought follow the reading bias to demonstrate how chronically decisions about literacy are made with reading mainly in mind and writing slighted. Treating literacy as reading only has in fact bedeviled not only pedagogy but research and theory about it as well.

### ■ THE WRITING POINT OF VIEW

But most controversy in literacy looks different when you put reading and writing on parity and treat both at once. Why fight over whether sound spellings are needed for reading if readers have to become spellers anyway in order to write? It's all taking place in the same mind. The amount of sound-spelling correspondences that might be presented to learners to help them write independently would probably be more than readers would need as a starter or booster to recognize words when reading independently.

Sensible teachers have always encouraged children to write freely and to make fearless educated guesses about spelling, but the error orientation of schools too often prevailed over this approach. And many parents have fostered at home the spontaneous inventive spelling of their preschool children playing creatively with letters. Researchers like Charles Reed, Carol Chomsky, and Glenda Bissex helped to legitimize this play for school by showing that it helped to teach reading as well.[3] But children inventing spelling must learn the alphabet, which comprises the twenty-six smallest particles in the language! Does this violate the "whole language" approach?

Learning seventy graphemes, as children did in the old *Writing Road to Reading*, differs only in quantity from learning the alphabet, not in principle. Neither conveys meaning. The difference between independent writing based on the alphabet and that old "phonics" program turns on one's notion of *minimal*. Is there something between the incomplete, misleading alphabet and the fuller, more accurate but more numerous set of the main phoneme spellings of English? How elaborate does a set of sound-spelling correspondences have to become before it ceases acting as a magic key and starts interfering with the learner's natural self-teaching?

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[3] See Charles Read, "Children's Categorizations of Speech Sounds in English," *Research Report* 17 (Urbana IL: National Council of Teachers of English, 1975); Carol Chomsky, "Write First, Read Later," *Childhood Education* 47, (March, 1971): 296-299; Edmund H. Hunderson and J. N. Beers, eds., *Developmental and Cognitive Aspects of Learning to Spell* (Newark, DE: International Reading Association, 1980); and Glenda Bissex, *Gnys at Wrk: A Child Learns to Read and Write* (Cambridge: Harvard University Press, 1980).

## ■ THE NATURE OF INVENTED SPELLING

This self-teaching begins with drawing. Like words, pictures too represent things, symbolize. Drawing letters is for children not so different from drawing other shapes. And children become interested in drawing letters if they see that these are important to other people around them. They imitate. Then gradually they realize that these letters can be combined to represent speech sounds. During preschool and primary years this correspondence or code can be a very intriguing idea indeed.

The process of trying to match speech sounds with the letters of the alphabet becomes a powerful way to teach oneself the phoneme-grapheme relationships. Children who invent their own spelling go through a fairly predictable series of stages:

1. using the names of the letters of the alphabet for their sounds as in Paul Bissex's message to his mother, RUDF—"Are you deaf?" (dee-eff).
2. using only consonants for whole words, sometimes only the initial consonant but often initial and final consonants.
3. representing vowels sounds as well as consonant sounds.
4. spelling the long vowels by single letters as pronounced in the alphabet (*sel*).
5. spelling short vowels by a single letter even though not pronounced as in the alphabet (*fill*), spelling long vowels with two letters even though one is silent (*seal*), doubling consonant letters after a final short vowel (*fill*), and inserting *m* and *n* for nasal sounds inside words (*send*).

The continual process of hypothesizing about how words are spelled stimulates children to notice conventional spellings and to sense when their hypotheses are not taking account of all of the conventions of standard spelling. What all beginning writers need is a print-rich environment with plentiful examples of conventional spelling and at the same time encouragement to guess at how words are spelled. Then they can juxtapose their own invented spellings based on their operating hypotheses about orthography alongside the way the rest of the world spells words. Ample opportunity to read along with texts and to see their own words become text through language-experience activities combines with plentiful independent writing to forge further hypotheses that successively approximate the English spelling system.

Young children who guess at how a word is spelled, based on their operating hypotheses, will have at least three advantages over other children. First, they grasp the basic idea of literacy as a visual system for connecting thought to sight as they formerly connected thought to hearing. Because they themselves invent a spelling system and keep modifying it, they understand both how English literacy is systemic and how it is not. Second, they become independent writers earlier and thus will garner more practice writing at an age when creating a written artifact holds a special charm for children, one similar to creating a picture or other art object. Third, their interest in writing prompts them to read, and their awareness of the selecting and ordering of letters in words makes them better readers.

As Bissex's case study of Paul brings out very clearly, although the inventive speller may start with having each letter of the alphabet say its own name, he soon senses the difference between his spelling and that he sees in the signs and labels

and stories around him. He then feels a need to supplement and correct the alphabet while writing. Children want to get things right, the way adults do it. So they ask others for spellings for the words they are trying to write down. Significantly, Paul sometimes asked only for the spelling of part of a word, a phoneme, not the whole word, because he had already worked out the rest of the word to his satisfaction.

But just as often, Bissex did not know *which* spelling of the phoneme to give him without knowing the context provided by the rest of the word. As she countered his question with hers, he became aware that graphemes don't neatly pair off one-to-one with phonemes but change for a given sound according to neighboring sounds in the context of the whole word. Asking for spellings of both phonemes and whole words became a major way that Paul made his way from his spelling inventions toward conventional English orthography.

It's ideal to get information this way, just at the moment you need it. Learning a systematic bloc of information in advance, pending the time you shall need it, as in a phonics program, is not ideal, because you have less motive to learn it in the first place and later you may forget the part of it you need or not be able to pluck it from memory and apply it at will. So, besides needing people standing by to answer your spelling questions, what's the problem with using the alphabet alone as the basis for invented spelling? It's the briefest such bloc of information an independent writer can start with.

The problem is that in overcoming its very paucity and consequent distortion the learner comes to depend on others to feed him the further, corrective information. And for a while he often can't read back his own writing for himself or share it with others. The more the inventive speller realizes that his spellings differ from those in texts, to which he is increasingly drawn for reading material, the more frustrated he can become with the inadequacies of the alphabet and his inventions based on it. This tension is bound to increase as he grows and is in fact what will transform invention into convention. If phoneme spellings are ever to be *presented* to learners, this would be the time. What began as solo play inevitably becomes communication, which requires conforming to such social conventions as spelling. For a while he maintains both his orthographic system and society's, but the motivation to read others' texts and to have them read his eventually predominates as a game having more possibilities than the original one.

Some children will start invented spelling at home, others in school. How may school best sustain the former and initiate the latter? Schools have not acquired enough experience with either to offer complete answers. Should children who never wrote on their own before school start independent writing with only the alphabet, or utilize a somewhat more extended presentation of sound spellings? Whether the independent writer begins asking for conventional spellings before or after he enters school, sooner or later he will need some sources for answers. Can he ask for spellings in the classroom as frequently as he might at home? Perhaps so, perhaps more, if, as we've proposed, many outside literate people are routinely brought in. But busy writers could interrupt them a great deal as they are working with other learners.

Both human and material kinds of resources for elaborating alphabet inventions ought to be available to give individuals standard spellings of phonemes and words if they want them and when they want them—in mid-writing. They get standard spellings of course all the time as they read along, read alone, and dictate, but you can give spellings also in mid-writing conferences, and writing part-

ners can give them to each other. Many primary teachers write out below a child's invented-spelling text the standard spelling for that text. This honors the original but allows the child experiencing the tension between his inventions and regular orthography to compare and to make his own transition.

Maybe the classroom should also contain other material resources besides dictionaries that independent writers can refer to for sound-spellings, such as wall charts or, better, audiovisual materials that sound as well as show the commonest spellings of English phonemes. For an example see the footnote on page 138. It is here and only here—as *reference* in *independent writing*—that we think such materials should be considered.

## ■ LITERACY AS A GAME

Let's combine the possibility of such material resources with two other considerations. The first is suggested by the very motivation that impels some preschool children to start writing on their own by invented spelling. This literacy that educators and researchers make heavy weather of is for children a game like any other game. It's hard for lifelong readers and writers, especially academic people, to appreciate the marvel that children feel at first about the idea of converting speech and letters back and forth into each other. It's stunning to discover that a *second* way exists to give and get meaning—an equivalent out there of this familiar body activity of talking. Preschool children don't take up make-do writing primarily to communicate, since they already can speak and they often can't read back their own writing. They do it for fun.

Inventing spelling is the same kind of creative, intellectual play that makes small children the prodigious learners they are. Letters are a new play medium, the alphabet a generative toy whose possibilities they play out by combining members of the set to learn which combinations can stand for sounds and words they want. The very idea of reading also is astonishing—this hidden, distanced voice that you can unlock from the page if you have the key. Reading plays into the child's sense of mystery about a world not yet explained away and his need for a magic to penetrate this mystery. In all our utilitarian talk about literacy, we educators and researchers have lost the viewpoint of the one who is actually to do this thing we are talking about. For the beginner, literacy is about secrecy and sorcery.

Just as lion cubs gambol and tumble to develop the agility they will need as predators, human children invent kinds of play that exercise their mind. Inasmuch as inventing a writing system out of the alphabet is such play, it is just another survival game to develop the sorcery to penetrate the secrecy, aside from what new communicative possibilities it also holds, which are by no means clear when a child starts writing on his own for fun. In other words, the learning of isolated letters or letter clusters that can appear unholistic from the perspective of language communication alone appears integrative from this learner's perspective, *wherein letters, phonemes, and words are play tokens as well as symbols.* Knowing that putting them together can also tie into meaning does not in the child's mind conflict with this but, rather, enhances it. The meaning sometimes riding on the play tokens simply makes of literacy a very resonant double game whereby children crack a code and sport with a new medium at the same time, that is, become a sorcerer to penetrate secrets—all while exercising the play of their mind.

We share the outrage of colleagues in English education about the untold damage done to schooling in the name of phonics and would be dismayed to see the argument developed here perverted into a rationalization for any of the drills and rules, workbooks and textbooks. We have roundly condemned the particle approach since the 1960s, but at the same time we don't want to let outrage blind us to this child's view of word particles as play things.

At this point let's turn to the other consideration that bears on the question of whether, or how, to present phoneme spellings. It is the question we asked of reading but now ask of writing: what is unique about it?

## ■ TRANSCRIBING

As visual processing of language is all that's unique to reading, transcribing is all that's unique to writing, since composition may be oral or even nonverbal as well—though differing for these of course. Written composition and oral composition are not the same. The fact of transcribing while composing does indeed influence the composing, recursively, since it leaves a record of thoughts that the author keeps referring back to while composing further. And again as with reading, the oral intermediary recedes with writing proficiency as sensorimotor becomes more automatic and more directly connected to thought. So while fully recognizing the eventual fusion of transcribing and composing, educators must allow, as with reading, for how the *beginner* must go about learning to coordinate these very different but simultaneous activities.

Thinking is not new for the child, but transcribing is. In fact, trying to learn how to draw letters and spell words *while* thinking of what he has to say poses such a severe obstacle to the beginner that he may hate writing from the start and develop a block on it, like most of the citizenry, unless his teacher arranges for him to dictate to a scribe or invent his own spelling. Dictation permits the beginner to let someone else transcribe while he composes so that, just like the corporate executive, he doesn't have to bother with it. Actually, of course, dictating is a major means, as we saw, of *learning* to transcribe, by watching and emulating. Unlike the executive, the child wants to take over and transcribe for himself, as he learns to do concurrently through invented spelling as well.

The greater difficulty of writing has not been fully appreciated and accommodated. The child's problem of trying to write and think at the same time has often been evaded by simply deferring composition until after mastery of transcription, which has been taught through drills and rules on handwriting, spelling, and punctuating. This way of beginning gives children an aversive and barren notion of "writing."

To appreciate the greater difficulty of transcribing, compare it with its counterpart in reading, the recognizing of oral words in text. Spelling out one's thought into letters demands much more than sounding out or figuring out a text. Whereas a reader can take advantage of grammatical and meaning cues to fill in words and fill out sentences, and therefore does not have to attack each letter or word directly according to sheer appearance, a writer must summon everything from within—sense, sound, and sight. He must know the sound-spelling correspondences much more explicitly and more precisely. Spelling requires more consciousness.

The reader has external givens by which to infer from known to unknown. With a little visual processing he can activate a lot of oral knowledge to apply

back to the visual information. He can operate more intuitively too, because he can constantly check guesses against comprehension. So his job is more to synthesize, to pull all evidence together into a whole. The speller faces a task more characterized by analysis. He not only has to parcel his thought out over parts of speech; he must segment the speech flow into its finest sound particles—phonemes—and write them down in the finest graphic units—letters. He must also sequence these letters in a precise order that renders both the multiple-letter spelling of individual phonemes and the overall sequence of phonemes within a word—when the phoneme sequence will itself affect the individual spellings within it.

A writer is a speller. Of course much writing consists also of simply reproducing already memorized words as visual wholes. But to the extent that the beginning writer uses words he does not already know how to spell, he will have to rely on some knowledge of phoneme spellings going well beyond the alphabet. Starting with the sound of his own words in his mind, the writer must build up phoneme by phoneme each word he hasn't memorized the spelling of.

The fact that it's harder to spell words than to recognize them must become an important consideration in determining what learners need to become literate. Handwriting need not encumber early independent writers, because they can stamp and type letters. Spelling remains the major stumbling block to transcribing and hence to independent writing. Fortunately, it can be learned in fairly large measure, even broken down phonographemically, through reading. But we're obliged to ask if the circular process of teaching oneself to read and write by means of each other can work fully enough for all learners if no spelling information is fed into it but the alphabet. Since learning to write requires some phonographemic breakdown, then the issue is academic whether reading does or not. What one learns for writing will be available anyway, needed or not, for learning to read.

## GAMES AND MULTISENSORY MATERIALS

In keeping with the principle of pluralism—of affording whatever *some* learners *may* need—it seems wise to make available as classroom resources, on an individual basis, some physical materials that accommodate both the independent writer's need as speller to break words down and the child's treatment of letters as toys.

Becoming literate requires no great expenditure and can be taught well with few materials other than good reading matter and the learners' own writings. We oppose class sets of anything that require the same materials for all individuals. What we recommend are some nonbook materials that serve the students collectively as classroom resources. If purchasable, these are usually not made for schools alone. If not purchasable, they can be made in school, to the educational benefit of the makers.

Much depends on how the school uses human resources; people can supply live sound, for example, that otherwise machines would have to supply. Our recommendations play off human and material resources in ways that allow teachers to combine them according to local circumstances. Most of the games described in this chapter can be put on computer, but if the classroom has only one or two computers, too few individuals can get at the games at any one time. And cost is not everything either. Social games and manipulable materials provide interactive

experience children too often miss watching a monitor at *home*. Utilizing human rather than material resources not only saves money but affords an advantage we think should count high among priorities—the personal relating.

Becoming literate entails a lot of matching—of like letter shapes, of printed letters with cursive letters, of phonemes with graphemes, of spoken words with written words. Many games played out of school by both children and adults are based on matching, as in making a "hand" with cards of the same suit or number. Other common games like Boggle and Perquackery are based on making words out of letters, on spelling, which is itself a permutation game played by combining members of a set in various possible ways. Despite appearances, games embody basic human mental functioning. Matching members of one set with counterparts in another set, or aggregating items within a set to create new items according to certain combinatorial rules, are functions of logic. Many of the games described here resemble activities that inventive spellers devise as they explore phonemic spellings in different word structures.

Such games are vestiges of folk ways of learning that existed before public schools, which have, in their proud professionalism, usually scorned them. As a result, parents tend to distrust games, and the society has drawn a sharp line between playing and learning. But as we have been saying, it is precisely this sort of false professionalism trying to make an exclusive place for itself that has resulted in the concept of reading as a highly specialized activity requiring special practices and materials not otherwise found in nature. Today, fortunately, a growing number of professionals see themselves more as applying natural learning activities of a general nature to specific tasks such as reading and writing.

Two other considerations. Most games depend on social interplay. Players pool their knowledge. Game materials such as cards and letter cubes usually provide the sight, or spellings, but players have to provide the sound, or oral language. Collectively, they have enough knowledge of word recognition and sound-spellings to play the game, but while one player may only be practicing a sound-spelling or word he already knows, another player in that game may be learning from him that sound-spelling or word for the first time. Similarly, given a certain game, players will alternate between presenting spellings to each other and sounding out spellings presented to them by their partners.

Sociality is itself a learning modality and one especially preferred by some individuals. And this relates to the other consideration. Like most other learning, becoming literate succeeds best if pursued across different modalities, media, and materials. This pluralism not only ensures that each individual finds the most suitable means but that everyone can reinforce the learning by varying the form of it. Learning to recognize and produce the shapes of letters benefits from multisensory experience. Learning to match sounds with spellings according to various combinatorial patterns increases significantly the more a learner experiences these across different social and material contexts. The variety helps, precisely, to distinguish what does *not* vary, which is the spelling regularity or the overall look of a whole word.

The fact that relationships learned in several different materials or media become more sharply generalized argues for numerous, overlapping games. Another reason is simply that variety allows learners to shift a certain learning into a fresh game and get further practice while still enjoying it. Finally, since learners will be playing these games by unplanned combinations of choice and

chance, they will have more than one opportunity to encounter certain sound-spellings or words. You can also counsel individuals to play one or another game according to how much they seem to need, for example, (1) whole-word memorization, (2) word-making for spelling, (3) refinement of phonetic spelling to fit conventional spelling, or (4) reinforcement of an emerging generalization of phoneme spellings. Some learners would presumably play only a portion of these games, and some none.

We recommend assembling as a classroom resource the following materials. Some might be purchased, some might be made with students. Older students or adults who have come in to read or take dictation might help make some games and play them with beginners. Once well launched, a game culture perpetuates itself by the ripple effect as the community passes it down. In any case, game directions can be placed on an activity card to go with each set of materials.

## ■ HANDWRITING MATERIALS

Children who have discovered how to put their voice on paper are proud of the way their artifacts look. They often want to make the handwriting beautiful. Because most beginners draw and write together on the same page, we recommend starting on unlined paper. While the letters youngsters produce on unlined paper are still large, their first lined paper would do well to have wide lines. Most children spontaneously start by making letters in manuscript printing before they learn cursive, which in our culture comes typically in late second or third grade. Young children also enjoy tracing and erasing letters in a pan of shallow sand.

Some teachers show children how to print in the simplified italic and D'Nealian calligraphy, which slant the letters. It's certainly no more difficult to produce than the traditional ball and stick style of printing. When written with a broad-edged pen, it's not only pleasing because of the alternation of thick and thin lines, but it's easy because it follows the natural movement of the wrist. Some advocates of italic printing argue that it can be as speedily produced as cursive handwriting and that it's as legible, so there's no need to ever learn cursive writing.

### TRACING CARDS

Children enjoy tracing shapes. Buy or make large plasticized cards that bear some letters on each, printed about an inch high in one handwriting style per set of cards. Learners clip onto a card a sheet of tracing paper, which they can keep and eventually place in their folder. Cards are thus re-usable and preferable to consumable booklets, which are more expensive and less modular. An individual need practice only on letters they haven't yet learned. If they play enough with the stamps and manipulable letters recommended below, especially tracing over imprints or around the letters, they may never need cards. And of course constant independent writing teaches and rehearses letter formation, since it often begins at the same time as handwriting.

### LETTERS AND STAMPS

Basic for recognizing and making the letter shapes is a set of cutout letters, rubber-letter stamps, and/or letter cards. Physical letters of various materials combine tactile and motor learning with visual. They can be cut out of felt, masonite,

wood, plastic, sandpaper, and so on. Substances like clay or dough can be molded, cut out with cookie cutters, or twisted like pretzels and hardened by heat. Ideally, stamps, letter cards, and material letters would be of the same style and size so that they can be physically matched with each other.

Letter shapes can include upper and lower case. Their size should be large enough to see and handle easily but small enough—one to two inches high—to permit making sentence continuities in some manageable space. Cut vowels, regular consonants, and influential semiconsonants (*w*, *y*, *m*, *n*, *l*, and *r*) from material of three different colors so that students begin to discriminate among these three groups. It would be good but not essential to have also in cutout or stamp form the numerals one to nine and even punctuation marks.

Other useful materials are stencils that can be brushed over to print letters, or magnetized metal letters that can be attached to a metal wallboard.

## LETTER SETS FOR INDIVIDUALS

You might help some of your students make, each for himself, a set of either small single-letter cards or cutout letters. The latter are far preferable, because cutting out the letters itself teaches the shapes kinesthetically; then all subsequent manipulation of them provides tactile reinforcement. Students will have many uses for these sets.

Let each youngster trace or stamp a model array of the alphabet and cut these apart so that he has his own permanent letter set to keep in a little drawstring bag or box or can to make words with. Like their own word cards, these accumulate as a personal collection. Owners will need around one hundred capital letters and one hundred lower-case letters in ratio to each other according to their frequency in English.[4] Personal, homemade copies of punctuation marks (on cards) and of numerals would be useful too. Just making their own set of letters helps youngsters learn the names of the letters and how to identfy them even before they begin to put them to use.

USES. Youngsters like manipulating objects. Think of the cutouts as "feelies," a tactile means by which learners can "grasp" letter shapes in conjunction with seeing them. Laying out letters makes conscious issues out of backward, upside-down, or reversed letters and creates occasions for learners to correct each other. And youngsters love to stamp.

Both letters and stamps allow them to write words and sentences, in effect, before they can form letters, which expedites invented spelling a great deal. But they should be encouraged to practice drawing letters at the same time, using the letters and stamps as models. Outlining silhouettes of solid letters or stamped letters will probably teach handwriting very effectively but should be worked into an individual's overall evolution in hand-eye coordination and drawing.

With these materials students may do many kinds of solo and partner literacy activities:

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[4]11-A; 2-B; 2-C; 3-D; 10-E; 2-F; 4-G; 3-H; 9-I; 1-J; 2-K; 6-L; 2-M; 5-N; 9-O; 2-P; 1-Q; 7-R; 4-S; 5-T; 3-U; 1-V; 2-W; 1-X; 2-Y; 1-Z.

- Stack one letter on another of identical shape, for visual discrimination.
- Stamp a letter; then place on top of the stamped image its solid-letter counterpart, for visual discrimination.
- Draw a silhouette around a solid letter or trace over a stamped image, for handwriting.
- Match lower case with upper case, to distinguish capital letters.
- Match a manuscript letter with its cursive counterpart, to learn cursive.

For making words and texts:

- Combine letters to spell a word and read it aloud or silently.
- Combine letters to copy some printed matter, for spelling.
- Combine letters to make a word for partners to sound out.
- Combine letters to spell out a sentence or story.

Like electronic keyboards, which transfer this learning to yet another play medium, stamps and letters allow a beginner to create texts before mastering handwriting and as a means to mastering handwriting. Working with a partner or so enhances the fun of these activities and acts as a corrective.

In addition, letters can be used to play tic-tac-toe and Scrabble-like games, and stamps can be used to make labels, word cards, and other materials for other activities.

## ■ OTHER WORD-MAKING GAMES

Players of these games alternate between creating their own texts and reading those of others, between spelling and word recognition.

### SCRABBLE-LIKE

An easy way to get into word-making games is to play the familiar game of tic-tac-toe with all the letters of the alphabet. Players take turns, each adding a new letter to ones already played. The first one to make a word wins. Players still learning to form letters may play by stamping or by placing solid letters into the squares. A good kind of follow-up is Scrabble, which essentially just extends the idea of tic-tac-toe by increasing the number of squares and permitting players to build words over a larger area. These games stimulate experimentation with sound-spellings, but be prepared for much querying about which spellings are words and which spellings are correct. Aides and dictionaries help.

### LETTER-CUBE

Players cast cubes with letters instead of dots on their faces and try to sequence them into words. A store-bought game such as Spill 'n Spell is made for those already literate, not for those becoming literate, who need several special sets of cubes and directions. Graduated games can be created by increasing the number of cubes rolled at once and by stipulating particular cubes bearing certain letters. If cubes are color-coded and bear either vowels only or consonants only, then game directions can say, "Take two red and two blue cubes...." and hence auto-

matically exercise players in building words of, say, the *mate* and *meat* patterns. So game directions based on number and color of cubes can establish a progression of games emphasizing different word structures. Consonant digraphs can probably be better learned if printed on the cubes as such—*ch* or *wh* on one face.

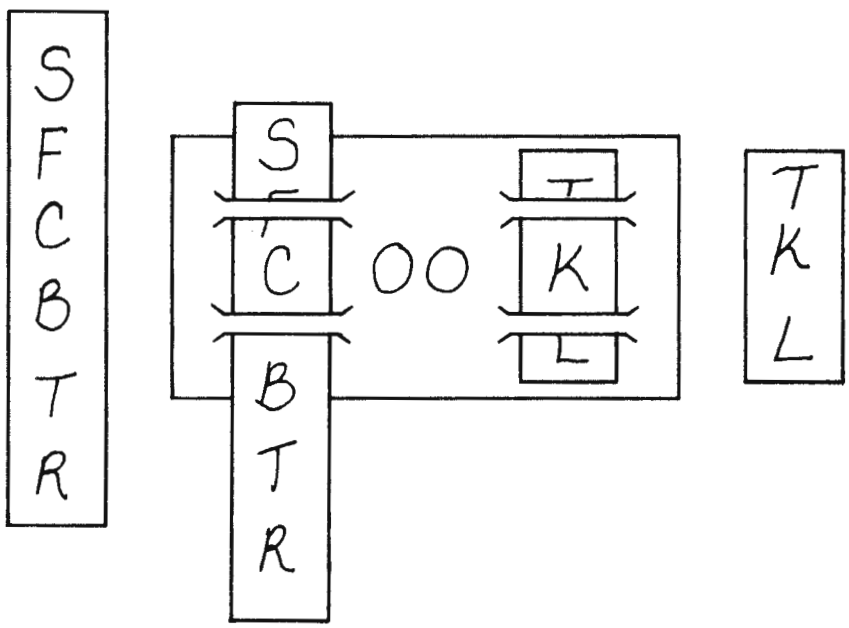
To keep score, players write or stamp down the words they make. Scoring can encourage longer words that use all or most of the letters thrown. Games can be played solo but are more fun in small groups, and partners can check each other. They can also play collaboratively instead of competitively if they keep only a group tally. In any case, players have to pool their knowledge to determine which combinations make real words. "Games of chance" are very useful, because they ensure that learners will have to try to read letter combinations neither they nor their partners may have made themselves. Looking for order in the randomness makes a suspenseful mystery of the game.

## LETTER-MOVING DEVICES

One can make with fairly common materials some game devices that allow players to pull or rotate a letter at a time through a little window set among some fixed letters. The effect is a kind of do-it-yourself animation that enables a player to make words by changing letters within a frame of fixed letters. The number of letter places can be adjusted to focus on different word structures and spelling patterns.

PULL-THROUGH. With cardboard or construction paper, for example, you might make a device like that shown in Figure 6.1. Cut slits in a piece of tagboard and slip in strips of letters. Since inventing spellers often omit vowels at first, such a

FIGURE 6.1 PULL-THROUGH DEVICE

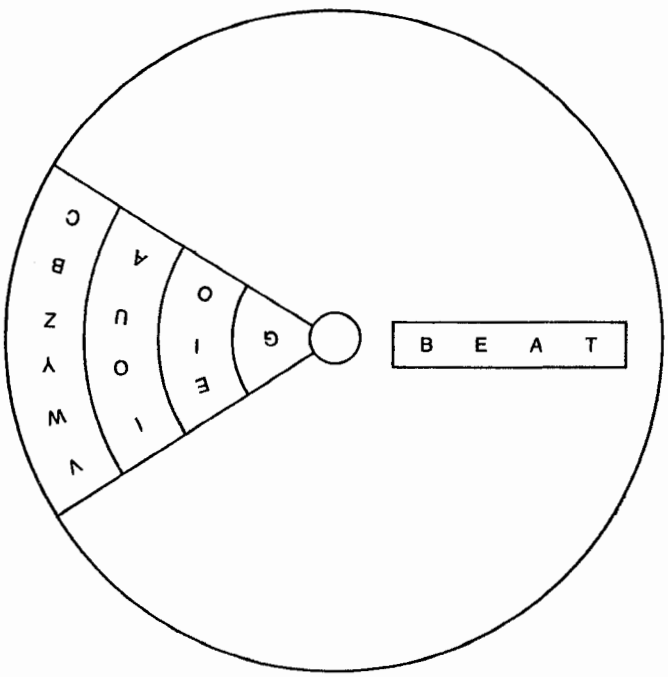


device could focus on three- and four-letter words having a vowel fixed in the middle. Different devices can feature other common vowel-consonant patterns and word structures.

WORD-WHEEL. A more versatile device is a word wheel as illustrated in Figure 6.2. A band of letters is printed around the circumference of a disk, and two or three successively smaller such disks are stacked concentrically and pinned together in the center with a brad that permits players to rotate the disks one at a time by thumb or finger. A cover wheel with a window frames the word formed. The open arc facilitates turning the wheels. The device illustrated focuses on the long-vowel pattern *cvvc*. Since only a handful of consonants can fill certain word slots, a smaller disk can contain enough letters for that position. This aspect of the wheel form, in fact, helps make such a point. Students can make pull-through and rotary devices to explore any sort of spelling pattern. In exhausting the possibilities of real words that can be made with one, they will think of another to make and experiment with.

SPECIAL VALUE OF LETTER-MOVING DEVICES. Making and playing with these devices entails excellent creative and intellectual play that can be done at any level of maturity by varying the difficulty. Older students will enjoy helping younger ones make the devices they need for their next stage of exploration. The learner gets insight about the spellings of English sounds that stick well because

FIGURE 6.2 WORD WHEEL



he has experimented. He is, in effect, systematically trying out various possible combinations in a scientific way and drawing conclusions from his research. By changing some letters while keeping others constant, he can see how the same spelling spells different sounds in different contexts (*flour, touch*) and how the sound value of a single letter changes with changes in neighboring letters it is combined with (*moose* and *mouse*).

And yet, this experimentation is really fun because the learner is controlling or making the device; he manipulates physical objects; the unknown outcomes create suspense; the recognition of familiar sounds in unfamiliar spellings is a pleasure; and the activities permit socializing. Devices can be made in funny and ingenious ways that become interesting in themselves, especially if the form of the word relates to the form of the device. Two windows spaced apart can be eyes; a strip of letters can be a tongue pulled through a mouth, etc. We urge you to make and play with some yourself to fully appreciate the possibilities for students of all ages.

## WORD TURNING

How do you change a dog into a cat? By replacing one sound-spelling at a time:

dog—dot—cot—cat

Each change must create a new word. You may add, delete, reverse, or replace a sound-spelling. Making these transformations on a page, chalkboard, or screen amounts to another kind of do-it-yourself animation. A way to make the game easier at first is to introduce the four transformations one at a time, perhaps on a sequence of activity cards.

Players should always say aloud the starting word and each subsequent word. This helps a solitary player keep focused on sound changes and helps partners check each other. They can either stamp or write on paper, write on a chalkboard, move solid or cutout letters or letter blocks, or change settings on letter-moving devices. The advantage of writing or stamping lies in seeing the whole sequence of steps when finished and in having a record. This is desirable because players sometimes compare different steps to the same end or score by counting the number of steps.

As a solo game, the point is simply to find out how to get from one word to the other and so is like a kind of puzzle. As a partner game, the point may be to get from one word to the other in the fewest steps or to otherwise compare different solutions, since usually more than one series of transformations will turn one word into another. Or if only one way exists, players may time how long it takes them to get the second word. One version of the game is to see who can make the longest string of words when all players start with a common word. Finally, players may work out transformation chains then give each other the first and last words to see if their partners can figure out the steps in between.

The rule that you change sound-spellings, not merely letters, induces valuable insights. Consider the following game task of transforming *loot* into *sick*.

loot—look—like—lick—sick

Is this legitimate? players may wonder. First of all, in replacing the *t* sound by the *k* sound, we have secondarily changed also the sound value of *oo*. It's good for players to notice that how a spelling is sounded may depend on what follows.

Second, in replacing the sound of *oo* in *look* by the long *i* of *like*, we have had to add a final mute *e*. But this too adheres strictly to the game rule about changing sounds, because if you put a long-vowel sound into this slot in this kind of word structure, you have to add the mute *e*. Next, changing long *i* to short *i* (*like—lick*) makes us drop the *e* again in favor of final *-ck*, and this transformation is a variation of the *bite—bit* transformation that applies generally to short and long vowels. Encourage players to discuss together whether certain transformations are legitimate. They will then have to thrash out the spelling rule because of the implications of the game rule.

## ■ WORD-RECOGNIZING GAMES

### CARD DECKS

Clumping together *which, while,* and *what* or *aid, mate,* and *say* is like making books of hearts and jacks. Cards may each have just a word on them or have a word on one side and on the other side a picture of the object that the word denotes. Decks might specialize in short or long vowels, easy or hard consonants. Decks you buy can serve as models for students to make more. Common games like rummy and concentration are good and can be supplemented by other pairing or book-making games. Pictures permit a simple solo or partner game of matching oral words to their depictions, without looking at the printed words, then of matching printed words to pictures by saying one and looking at the other.

Personal word card collections as mentioned on page 121 are good for games. Phonetically uncontrolled, often irregular, favored by the learner, these cards foster a fine kind of whole-word memorization. *Labels and Captions* suggests other sources for this collection. A good solo game is simply to place the word cards face down, turn them over one at a time, and try to sound them, placing aside those one cannot sound or is unsure of. The learner can get help with the ones he missed, then run through again sometime and compare his scores for both occasions. Playing with a partner gives students the advantage of checking each other and of playing with each other's cards. Or they can sort their word cards by prominent sounds or by word structures, organize them into decks, and exchange and play them by various game rules. This may help older students fasten down sound-spellings.

### BINGO

A caller reads aloud words from a call card. Players each have a card bearing, say, twenty-five word squares. Whenever a word is called that he sees on his card, a player covers it up with a chip or scrap. The first player to cover all word squares in one row or all word squares on his card yells "Bingo!" and wins. Bingo affords good practice in word recognition for both caller and player, and game directions can build in a checking system.

Typically, a player will know some words on a card and not others, so some he will recognize from memory of the whole word and some he will have to figure out for the first time. He's greatly aided by the process of elimination, because there are only so many words in front of him, dwindling all the time, that might be the word he hears called, and among those, only certain ones contain one or

more of the sounds in the word called. Since different degrees of difficulty are readily arranged through the choice of words placed on a set of cards, the game can be played equally well by very young or more mature learners. Again, making the games is part of the learning process.

These are only examples. Like preschoolers inventing spelling, students in school will make up other sorts of word-making and word-recognizing games to fit what they or others want to find out, because, given a chance, they work through play.[5]

## SUMMARY

So we recommend four concurrent activities especially for becoming literate:

- Following a printed text with the eyes while hearing it read.
- Dictating while watching the words being written down.
- Writing independently by inventing spelling.
- Playing word-making and word-recognizing games.

The read-along takes the reading viewpoint, invented spelling the writing viewpoint, and dictating both. Word-making games emphasize writing; word-recognizing games, reading. All these suit any age, and learners who need them engage in all at once, all the time, in combination with other activities suggested in this book.

Being read to, dictating, and inventing spelling are the beginners' versions of reading and writing. Like games, they occur out of school; they are not activities devised on the assumption that teaching literacy is a professional speciality. This is a populist approach, which means that any literate people can pass on literacy if professionals help them appreciate what they have to give and arrange for them to help initiate beginners into the community of readers and writers.

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[5] For an animated-letter videotape that combines aspects of many of the activities and games described in this chapter, see *Sound Out*, by James Moffett and Bobby Seifert, which was created for becoming literate at any age in any setting. It presents the main spellings of the 40-odd English phonemes in the process of forming and transforming words with them that are further combined into longer text including punctuation. In taking essentially the speller's viewpoint it can be included among those classroom resources that may aid independent, individualized writing. For information on *Sound Out* contact James Moffett, 4107 Triangle Road, Mariposa, CA 95338.