## ALGEBRA and Reading with WIC

In teaching a child we aim to put him in a position where he may use competently, the whole of the English language. We can work towards this aim in two ways. We can approximate to English from below as it were, using something less than the whole of English, working with restricted forms of the language made up of selected words. Concurrently, we can approximate from above, taking something which is more than the whole of the English language and working with algebraic operations on signs which occasionally yield English words and sentences. In our approach we use the word algebra to mean the way in which words and sounds can be made up from combinations of signs and transformed by combining the signs differently. Algebra of this kind has been given pride of place among the techniques which lead to mastery of reading and writing. That it has a place in this field is in itself important. It is one of the most useful tools we can give children to help them in sorting out questions and solving problems. To exclude it would be to leave them the poorer.

The two ways of working on the English language mentioned above are used as follows:First one vowel is given using only one of its sounds, in this case the short one. We select a (as in pat) and form words of one, two, three or more a's. We follow this by similarly introducing $u$ (as in up) and more words are formed with one, two three or more u's, which are then combined with a's to form more words. We continue introducing the vowels $i$ (as in pit), e (as in pet and o (as in pot) and work at forming and reading combinations of sounds with the restricted language of five vowels. Children learn to read and write this fully phonetic restricted language in which there is not yet a word that is part of English. This is learning reading and writing where the activities are simply techniques. Later we introduce in turn the four consonants p ( as in up), t (as in at ), s ( as in is) and s ( as in us).


The algebra of the situation is immediately understood if the set of signs above is considered.

A mute apostrophe is added to these signs and with them many combinations are formed. It happens that many words are formed that are not English, and in this respect we are using more than the words of the English language; also we are only using 13 signs from the written language and much that is part of English (e.g. soup, pose, pious and many others) cannot be obtained.

This algebraic approach may be said to do the following:-

- It maintains the game-like activity.
- It gives exercises which are intellectual in character.
- It establishes from the beginning the analytic-synthetic method of forming words.
- It increases awareness of what is being done and the sounds which are being uttered.
- It helps children to recognise that words have to be formed and to see how they are formed.
- This type of exercise is called Visual Dictation No. 1.

The set of signs which approximates to English from below develops in 16 stages. When children reach the 16th stage, the signs they know can generate the whole of the English language. There are over 270 of these signs on the full chart. They are displayed in 48 groups. 19 of these groups are the vowel sounds and each group represents one sound. The remaining 29 groups are the consonants, each of which sounds in one way only when associated with the vowels. It is obviously possible, by combining these signs to get many combinations which are not English words.

As words (English words) are formed they can be retained and used in another game called Visual Dictation No. 2, in which words are put together to form sentences. Only some of the 'sentences' are English, for the structure of English must be taken into account in order to achieve an English sentence with English words.

