

CHAPTER II

THE STATEMENT OF THE PROBLEM AND HYPOTHESES

1. The Statement of the Problem

A sound motion picture can be analyzed into two aspects:

(i) The form of the film: This is the aspect which is decided by the methods of presenting the material. If an instructional film is to be effective, the question arises: Is the method of presentation used in that film effective? And how does it compare with films using other methods of presentation? For instance, how does the "still picture" method compare in effectiveness to the "motion picture" method?

(ii) The content of the film: This is the aspect which is decided by the subject-matter of the film. If an instructional film is to be effective, the question arises: Is the subject-matter appropriate to make a sound motion picture from it? For instance, is a list of English-Russian nouns the appropriate material to make a motion picture? Is a list of English-Russian verbs - or action words - more appropriate than that of nouns to make a motion picture?

Taking the aspect (ii) or the content of a film first, the basic experimental task in this study is assumed to consist in the learning of English-Russian word-lists - 20 pairs per list - by the method of paired associates up to a satisfactory norm. The learning level is to be judged by the correctness of the Russian word (the Response word or R) which the subjects write down after the presentation of the English word (the

Stimulus word or S). There are two such lists. One of them is a nouns-list. This is not supposed to be an appropriate material for presentation in a motion picture. The second list is a verbs-list. The latter is supposed to be more appropriate than nouns to justify making a film out of it.

Next, taking the aspect (i) or the form of the film, the basic method to present each word list through an instructional film is assumed to be one in which just titles of pairs of words are presented without any pictorial illustration or sound. Let this method be called the "titles method" or "words-alone" method. As regards the form aspect of a film, the main interest, therefore, is to compare the following methods of S-R presentation of lists:

- a. The "titles method": as described above.
- b. The "still-picture method": A still photograph of the object or act (noun, or verb) is presented as an associative factor between the English (S) and the Russian (R) words in the case of each pair.
- c. The "motion-picture method": A simple action scene in the significant part of the picture is presented as an associate factor between the English (S) and Russian (R) words in the case of each pair. For example, for the word "BOY" a still picture will appear in addition to the words BOY (S) and MALTCHYK (R) in the still picture method. But an action scene of a boy walking is used for the words BOY (S) and MALTCHYK (R) in the motion picture method. Similarly a still shot of a walking boy will be used as an associative factor between (TO) WALK (S) and HODIT (R) in the still picture method but in the motion picture method an action-scene of walking is to be used between (TO) WALK (S) and HODIT (R).
- d. The "sound motion picture method": This method is the same as

the motion picture method but the additional factor introduced here is the pronunciation of English-Russian words by a narrator from the sound-track.

e. The sound motion picture method with audience participation:

This method is the same as the sound motion picture method but the additional factor introduced here is that the subjects actively participate in the situation with the help of a proctor by pronouncing the word aloud as well as hearing it from the sound-track.

The experimental problems, then, with respect to both form and content of an instructional film can be stated as follows:

Experimental Problem A: Is the efficiency of the learning process increased by each additional factor which goes to make up the still picture method, the motion picture method, the sound motion picture method and this latter with audience participation respectively?

Experimental Problem B: Are the different motion picture methods more effective methods for the teaching of the verb-list or action-words than the "titles method" or "still-picture method"? Also, is the still-picture method better than the motion picture method for teaching the list of nouns or object-words?

Experimental Problem C: Do the methods that prove better in learning also prove better in retention tests to be given a week later?

2. Hypotheses

The hypotheses involved in the present study are derived from two sources:

a. The established principles in Psychology of learning and education: From the vast body of research accumulated in the field of sense-modalities, a general theory can be stated thus:

The greater the number of perceptual inlets to the stimulus and

the greater the participation of the subjects in the given situation, the greater is the resulting learning or retention of English-Russian vocabulary.

This theory has, however, not been consistently sustained. A partial explanation of the lack of a satisfactory theory in this field may lie in the limitations under which the visual mode of presentation has been used in the past. A human subject uses the eyes in more ways than seeing printed words exposed by the experimenter. But the visual method has been used just for this restricted purpose. It is possible and desirable to enrich the visual method by introducing other variations such as the still picture method, or the motion picture method. The hypothesis behind the present study, then, is that the learning of English-Russian vocabulary can be increased appreciably by introducing the still-picture method and the motion picture methods as additional perceptual inlets to the stimulus.

b. The instructional film research.

(1) Perceptual reinforcement hypothesis. This hypothesis has been stated by Carpenter (13) as follows:

That multi-sensory modalities of communication may be, under certain conditions, more effective for instructional purposes than single sensory modality communication.

In order to make a test of this hypothesis, the proponent of the above hypothesis emphasizes that certain precautions be taken. Firstly, full potentialities of both vision and hearing should be used. As was explained above, the full potentialities of vision can be used by introducing the additional methods of still picture and motion picture presentation. Secondly, it is urged that in making the test films one should ensure against "interferences, inhibitions and distractions." This objective was

constantly kept in mind in making the experimental film versions for this study as will be explained later in Chapter IV. Thirdly, this formulation recommends that "the streams, sequences and patterns of stimuli, i.e. pictures and sound track should be so arranged that all of the elements are integrated and mutually reinforcing for the intended reactions or instructional objectives." It is difficult, to say, however, how far our experimental film versions conform to this requirement. Assuming, however, that our experimental films did integrate sound and picture in a satisfactory way, the perceptual reinforcement hypothesis leads one to expect that the sound motion picture method and the sound motion picture method with audience participation should prove better than the motion picture method, the still picture method and the titles method.

(ii) Sign similarity hypothesis. Carpenter (13) states this hypothesis as follows:

That films whose signals, signs, and symbols have high degrees of similarity ('iconicity') to the objects and situations which they represent will be more effective for most instructional purposes than films whose signals, signs, and symbols have low degrees of 'iconicity'.

Now, if, language learning at a complex level such as reading, writing, and speaking were to be investigated in this study, this hypothesis may not apply here because language becomes a communication of abstract ideas at the level of complex processes of reading, speaking, etc. But our study proposes to investigate the language learning only at a very rudimentary level, vocabulary learning. At this level, the sign similarity hypothesis may have a chance of verification. It is, therefore, hypothesized that the films, involving action-pictures, have a higher degree of iconicity to a verbs-list and a lower degree of iconicity to a nouns-list. Similarly, the films, involving still pictures, have a higher degree of iconicity

to a nouns-list and a lower degree of iconicity to a verbs-list. The deduction, therefore, is that the motion picture method should prove especially effective in teaching action words or verbs.