CHAPTER I

THE AIM AND THE SIGNIFICANCE OF THIS STUDY

A persistent problem in the psychology of verbal learning is the effect of different methods of presenting the material. Do significant changes occur in learning and retention, if visual, auditory, kinaesthetic stimuli, or several possible combinations of these are varied in a definable manner?

The aim of the present investigation is to attempt an answer to this problem by introducing three important variations in the experimental procedure.

Firstly, instead of using nonsense syllables which have probably less human interest value, the aim here was to use pairs of English-Russian words as test-material. The assumption behind this modification is that the subjects coming from the Western culture will be more highly motivated to learn this material than standard lists of nonsense syllables, word-pairs or digits.

The second methodological change is the use of instructional films and 16 mm. motion picture projectors as the medium to present the material. The consideration behind this change was that the instructional film is far better than the tachistoscopic or other kinds of apparatus to test a large number of subjects at the same time. "Rapid mass learning," as a social psychological process, is engaging more and more attention of psychologists at present, because of its obvious theoretical and practical

value. It can be studied much more efficiently by mass media of communication like films, television, and radio.

A third difference between this experiment and many other studies of this type is that the former was designed to study, in an additive way, the effect of only those modalities of presentation which enter into the medium of films.

The main channels of communication which a sound film uses are two - the visual and the auditory. The former channel - the visual - can be analyzed into three elements:

(a) titles (pairs of English-Russian words, in this experiment),

(b) still pictures, and

(c) pictures involving motion.

The latter channel - the auditory - can also be analyzed into two elements:

(d) the narration as heard from the soundtrack (pronunciation of words by a competent Russian-born narrator in this experiment), and

(e) the audience participation or imitation of the narrator's pronunciation by the subjects. Partly, this corresponds to the kinaesthetic modality of presentation. Thus, it was assumed that there are five methods of presenting the material through instructional films. Further, experimental film-versions, which make additive use of these five methods, were produced and tested on large subject populations. The third characteristic way in which this study is, therefore, different from other studies is its emphasis on those methods of presentation which are frequently used in educational films.

Briefly, then, the object of this study was to investigate experimentally the effectiveness of sound motion pictures as a medium of learning of or instruction in English-Russian vocabulary.

The need to answer the above problem is part of a larger and more imperative need to answer a very practical question: Do sound motion pictures work as an effective device to teach Russian or other foreign languages, in times of emergency? To answer it, the present investigation needs to be extended to a level where complex processes of reading, writing and speaking could be tested by means of motion pictures. But it does make a modest beginning in this direction.

The Instructional Film Research Program at The Pennsylvania State College described in fuller detail by its Director, Professor C. R. Carpenter (12,13), and by Carpenter and Greenhill (14) has been engaged, for the last five years, in investigating the effectiveness of instructional films as a medium of rapid mass learning. The Program is sponsored by the Departments of the Army and the Navy, through the Special Devices Center, Port Washington, Long Island, New York. The present study was undertaken after an approval for the research proposal was secured from the staff of the Psychology Department of Columbia University, where the writer is submitting this dissertation. In addition, it had also to be approved by the Special Devices Center. This investigation corresponds to the main objective of the Program, which is to discover facts and principles that improve the effectiveness of films for the rapid training, instruction and education of large numbers of people. So far, the Instructional Film Research Program has undertaken about 70 different research projects. The present study was called Project 66 in this series.

Besides the central problem of the study the experimenter had to face certain peripheral problems as well. Stated briefly, they were:

(i) How to select the appropriate lists of English-Russian words to form the test material?

(ii) How to transform the traditional Paired Associate method into a test-film?

(iii) What photographic procedures and film-production techniques should be used in order to cut down the cost of making films to a minimum?

(iv) What methods of recording and scoring the response of each subject should be adopted for the purpose of this study?

(v) What should be the rate of presentation or length of exposure time (in seconds) for which each pair of words should be shown to the subjects and how many repetitions of a film are practicable both from the point of view of sustaining the interest of subjects and getting a maximum level of performance from them?

(vi) What method of sampling should be followed in order to secure groups of subjects approximately of the same size and ability? How should the individual differences among the subjects be taken into account, in order to get comparable groups?

(vii) How should the traditional instructions at the beginning of an experiment be given in this study so as to communicate effectively to the subjects about their part in the experiment and at the same time to save on the time required for giving instructions?

(viii) The arrangement of the testing schedule, the procurement of adequate number of proctors for each testing session and securing the maximum cooperation of subjects, in general, required careful planning.

Decisions on some of these problems were taken after a pilot test. Decisions on others did not need a pilot test or could not be postponed until after a pilot test. These latter were arrived at more or less by judging the needs of each situation separately. The significance of this study, therefore, lies not only in the major question asked but also in the

manifold minor problems, which had to be solved mainly by relying on the correctness of the experimenter's own decisions.

The specific experimental problem and the hypotheses are discussed in the next chapter.