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ABSTRACT

This paper is a first approach to the problems raised by the concept of experimentation in the field of functional literacy. It is divided into three main sections: (1) necessity, limits, and means of experimentation; (2) methods and fields of experimentation; and (3) the fields of experimentation. Hypotheses examined include: (1) The cultural minorities who are conscious of their situation as a minority are more open, seek more actively the raising of their level of knowledge and skill than the majorities; (2) The concept of school progression based on phonetic progression seems to have to be abandoned in the field of adult education; (3) Neither for the teacher nor for the taught is the traditional manual likely to be the best pedagogical instrument. It is concluded that in the conduct of the Functional Literacy Programme, each project, in terms of the objectives that are set for it, the circumstances, the specific capacities of its cadres, should work out an experimentation plan supported by a corresponding evaluation plan. (CK)

UNITED NATIONS EDUCATIONAL,

SCIENTIFIC AND CULTURAL ORGANIZATION

EXPERIMENTAL WORLD LITERACY PROGRAMME

EXPERIMENTATION IN FUNCTIONAL LITERACY PILOT PROJECTS

(Importance, limitations, meaning, methods & fields)

ED/WS/188

Paris, May 1970

Projects "must rema n faithful .... to the experimental spirit of the World Programme; their essential objective is in fact to permit and to encourage the discovery, the development and the evaluation of methods of approach, of techniques and of new instruments calculated to facilitate the integration of literacy and of the other means of training workers, with a view to raising the level of their knowledge and of their social and vocational qualifications and thereby increasing their productivity.... The number of differentiated experiments within the experimental projects must be increased, as well as the number of possible variations (from the point of view of contents, methods, the use of various types of pedagogical equipment and audio-visual means, modes of organization of the projects, methods of training personnel, the use of trained personnel having different social and vocational backgrounds, etc...."

Paris meeting - 1-5 December 1969, Final Report

The present brief study, written as a result of the Paris meeting and within the framework of its recommendations, is a first approach to the problems raised by the concept of experimentation in the field of functional literacy. This communication constitutes only a preliminary document which will have to be enriched both by theoretical thinking and by knowledge acquired in action. We shall deal successively with the meaning of the concept, the methods that can be used for its implementation and the variables that can be taken into account.

1. Necessity, limits and means of experimentation

1.1 Necessity of experimentation. So-called traditional literacy teaching, allegedly built on certainties, is in fact only an experiment. The proof of this is that most of the concepts (pupil psychology, the most effective means of communication, etc...) on which it is built appear today to be scientifically challengeable. The major defect, however, resides not so much in the erroneous character of its bases as in the dogmatism that enveloped it. The permanent process of revision and adaptation was thus for a long time rendered impossible. In proposing a new pedagogy, we must rule out committing the same error by presenting it as a new dogma; it has all the less need of this as its scientific bases are sounder and experimentation does not represent for it merely an extrinsic concept leading to the confirmation or invalidation of its elements, but constitutes an intrinsic aspect of its own methods.

In all fields the present period invites us to experiment. The concern with output, with accelerated growth, but also with the adaptation of institutions to new modes of being and thinking, make the invention of new procedures and combinations of procedures necessary everywhere. In industry the enterprises that refuse to or that cannot have recourse to experimentation disappear and give way to production units making use of the new procedures. On the scale of nations, those that do not engage in research, that refuse to experiment, likewise are left behind. Moreover, in many fields the traditional methods lend themselves to only very marginal improvements and it becomes necessary to make leaps, to effect mutations based on series of innovations which are themselves linked to new conceptions. Functional literacy training as a global concept represents an innovating by pothesis of this type: from it may be hoped a considerable improvement in the yield of education for the benefit of the individual and of the economy (a functional and temporal conjunction of investment and the expected product).

These quasi-revolutionary potentialities must be tested: the implications of the concept must be explored, the means of implementation considered and their effectivness measured. The means of which the use is contemplated are indeed based on scientific observations or on a pedagogical practice. Experimentation, however, appears necessary for several reasons: (i) the data that often serve as a basis have been tried out either under laboratory conditions, or in a pedagogical context different from the one contemplated, or in another national setting so that they cannot be applied without undergoing a phase of testing; (ii) as in industry, any new technique must be put through a series of progressively more embracing trials; moreover, as the teaching of functional literacy integrates numerous new methodological and technical elements, each one of them must first be tested as an independent variable; (iii) achievements of great scope in fields such as the one considered here cannot be envisaged without the support of public opinion. In order to win it over, theoretical discussions are ineffective; the practical demonstration, on the contrary, produces psychological mutations. Experimentation is necessary not only in the operational process but also in the realm of collective representations, opinions and decisions.

1.2 Present insufficiency of experimentation in the projects and the reasons therefor. The Paris meeting "felt...that the experiments in progress were neither yet either sufficiently numerous nor sufficiently diversified to provide objective and documented answers to the numerous questions that the inclusion of literacy teaching in the process of development raises".

The reasons for this lag are not very numerous. We find, first, the financial difficulties that stand in the way of tests which initially are always costly, even though they usually lead to economies. The most serious objection, however, is almost always formulated in moral terms: there is a refusal to consider populations as experimental material. The motives that dictate this position are varied. Very often there is at first a suspicion that behind the idea of experimentation there is an intention to undertake tests based on gratuitous assumptions. Here there is in fact an ethical problem; the conditions under which experiments in the field of functional literacy can be conducted must be made clear. This will be done further on. The moral opposition to the notion of experimentation may be more radical; some categorically refuse, by reason of a conception of man and of the relation between the State and the Nation, to consider the masses as possible material for any kind of experimentation whatever; seen in this light the notion of experimentation does not, however, cease to be of interest; although it must then be given a new content, be adapted to the

framework in which it is intended to carry it out. The third kind of motive is of a strategic order: it is sometimes thought that the masses need certainty and that it is impossible to propose to them solutions which would not appear to be definitive; in this case any experimentation is in effect impossible and useless, at least any experimentation admitted to be such and which, consequently, would be a means of progress; it does not indeed seem that anyone has as yet found an ideal solution for the problem of adult education, and any method used today can be considered only as a very imperfect adumbration of those that might be possible.

1.3 The limits of experimentation. They are of three main kinds:

(a) Every society has fixed deontological limits to experimentation in the realm of man. These limits depend on philosophic conceptions, on ideology, on social relations; they tend, however, to mark off in every society a vast common area. Guide marks provided by medical deontology can usefully suggest the limits to be assigned to experimentation in education in general and more particularly in functional education. People will readily agree, it seems, on the following principles: any systematic test dictated by pure scientific curiosity, which does not have the aim of bringing about an improvement in the conditions of instruction of the very populations on which the experiment is conducted is ruled out; only experimentation in methods and techniques which there is good reason to believe will benefit those concerned, which do not have harmful effects and which have possibilities of success at least as great as those used until now, is justified. This moral rule determines the scientific limits of experimentation.

(b) Far from operating at haphazard, one must experiment with full knowledge of what science has contributed and of the results of past experience. Only he who is perfectly informed as to the latest developments in the fields related to the contemplated action can experiment validly and effectively.

(c) The third limit that one must impose upon oneself relates to the field of experimentation. It must proceed within the framework defined by the concept of functional literacy instruction, that is to say of an education linked to vocation. Thereby are eliminated experiments conceived on the basis of other concepts such as those of basic education, of vocational training, of literacy instruction in the strict sense, etc... It is on the other hand legitimate to test both different interpretations of the concept of functional literacy instruction and the means necessary for its implementation.

2. Methods and fields of experimentation

2.1 Generation and fields of experimentation. The experimental attitude is first of all a non-dogmatic attitude with regard to reality and, in the case considered, with regard to the used and usable methods. The experiment cannot, however, be conceived arbitrarily. The experimental conditions must be worked out in terms of the scientific and practical knowledge acquired: thus account must be taken of recent discoveries in pedagogy, of the data of experimental psychology (on the problem of retention, for example), of the results obtained by adult psychology, of the knowledge of the cultural, psychic and social characteristics of the social category in which one operates and of one's pedagogical observation.

The experimentation may deal with each of the special aspects (factors) of functional literacy instruction, with combinations of aspects, or with their totality; hypotheses may be put forward as to the methods of communication, programme content, progressions, individual and collective pedagogical auxiliaries, instructors and their training, the receptivity of different social classes to functional literacy actions, etc... Before formulating, without any attempt to be exhaustive, some of the hypotheses that can be made, we shall present a few ideas concerning experimentation methods that can be used in the field considered.

2.2 Experimental methods. The methods that can be used for experimentation in education in general and more particularly in functional literacy instruction, while they are not very numerous are nevertheless of an extremely varied nature. They can be differentiated first of all according to the conception one has of the pupil, of the man to be taught. He can be considered as an object being or as a subject of an experimentation. In the former case we come close to experimentation in the field of natural sciences; we posit the experimenter at the outset as external, foreign to the experimented; we give to the latter, in a sense, an objective existence. We then encounter two types of usable methods:

(i) The experimentation itself. We observe without intervening the evolution of a situation of which we know the initial data, we measure the effects after a certain time or, at the end, the feedback taking place after the experiment. But here again we have two possibilities. Either we deliberately create the conditions of the experiment; that is to say, having surrounded ourselves with all the precautions recommended by deontology, we set up in a concerted fashion the means calculated to carry out the experimentation on one or several factors. This is the type of experimentation closest to laboratory conditions. In functional literacy projects one can thus choose a small number of centres in which new methods, techniques and auxiliaries will be tested. This amounts, in short, to establishing micro-experiments within the functional literacy experimental project, enjoying within the project, as the latter does in relation to the national campaigns an individuality, an identification of its conditions, such that its results can be controlled.

This voluntary experimentation can be contrasted with "given" experimentation. Reality generally offers us a great variety of cases, resulting from individual or collective characteristics, from choices that we have been led to make as a result of circumstances (problems of means, adaptation to the environment, etc....). We can consider this combination of cases as being so many experiments and carry out a controlled experimentation with what would otherwise remain a kind of anarchic experimentation. One must of course surround oneself with methodological precautions which are after all the same as those of experimentation in the laboratory and first of all verify the relations between variables. For example, if in a homogeneous region we find in certain villages an individual whose level of training is sufficient for him to be an instructor and we confide this task to him, whereas in the other villages we are obliged to use the primary school teachers who differ from him only by their level of instruction, their kind of training and their social and vocational status, the instructor variable appears as independent and we can validly compare the results obtained by the two categories of teaching. On the contrary, if peasant instructors and primary school teachers differ further by the language of communication used, the first using the same dialect as the populations to be made

literate, whereas the second group does not know this dialect, or else if the villages in which we have the possibility of using peasant literacy teachers differ systematically from the other villages (they may be, for example, villages on the edge of communication ways, or villages in which a primary school has long been in existence), the instructor variable cannot be considered as independent and the differences in the results obtained cannot be atributed to it. If now in the preceding case there are a certain number of primary school teachers available who express themselves in the same dialect as the populations taught, one has the possibility of making a richer experimentation since the instructor variable can be considered in three States. The interest and the difficulty of the given experimentation resides usually in the variety of values of each variable and in the diversity of the combinations of these values; extremely rich lessons can be learned from it through a multi-variable analysis.

(ii) The two preceding types of experimentation have the defect of being slow and cumbersome. The values of the variables being fixed at the outset (beginning of a cycle, for example), the results are measured after three, six months or more; in any case the feedback can be made only for the opening of the next cycle. This slowness in reorientation obviously has financial implications; it also appears hardly justifiable morally when in the course of the experimentation period choices whose erroneous character can be perceived are maintained. It is legitimate only in cases in which the conditions are such (insufficient level of pedagogical staff, necessity of using measuring instruments, etc...) that immediate reorientation is impossible.

The method of experimentation by successive adaptations or of trial and error may and does play a fundamental rôle in pedagogy. In practice, in the life of the educator and the educated, one comes across incidents that will be called effects and that are not known in advance. The problem is to know whether one is capable of discerning or of working out the causes that have produced these effects. One undertakes an analysis of the facts, one puts forth hypotheses (such an effect may result from this...), one envisages the cause and effect relationship; one than immediately experiments on the level of the factors, the causes, and one obtains experimental results. The observation is carried out in two stages; in the first it concerns the facts that produce the formulation of the hypotheses, in the second it bears on the results of the experimentation. The hypotheses are also made on two levels, on that of the interpretation of the reality observed and on that of the values of the variable likely to modify the effects. This type of experimentation requires of the experimenter a constant participation in the activities of the group of the taught, and the understanding of the processes that link effects and causes; it is well for it to be carried out by the instructor himself and therefore requires outstanding qualities on his part. It can, moreover, be useful for a collective reorientation of methods and techniques only if the experimenter keeps an exact record of the progress of the experiment. Experimentation by successive adaptations is ordinarily, like the given experimentation, limited by initial options (it is difficult for example to introduce suddenly the use of audio-visual aids in the course of an experiment of the first type); it can especially be used to develop methods of which the framework is fixed from the start.

The preceding methods based on the exteriority of the experimenter and the experimented can be contrasted with an experimental method based on the principle of the experimentation of self in reality. One no longer distinguishes, in this case, teacher and taught, experimenter and experimented, as two opposed entities,

the group is conceived as a whole (master-pupil) as proceeding to make his own confrontation with the real, reflecting on the difficulties encountered, choosing his methods, training himself and being instructed through the tests themselves. The experimentation becomes a pedagogical method, the fundamental principle of a pedagogy all of whose aspects it transforms. This concept of experimentation animates a whole current of modern pedagogy. It is without doubt the only one that completely meets the ethical objection opposed to the objectivation of man operated by the notion of experiment born of the natural sciences.

2.3 Assessment of the experimentation. Any experimentation, whatever its form, must be assessed; it would otherwise lose its demonstrative value. We shall not dwell here on the problems of assessment, which are not the subject of the present document and which are dealt with elsewhere. We shall only recall that in the context of experimentation two aspects of assessment are fundamental:

(1) the measurement of the results obtained in the field of knowledge, in that of the transformation of practices, of habits and in that of the economic and social effects of the preceding changes. The performances are measured by means of tests, interviews, observations, etc.

(2) the analysis of the relations between causes and effects, that is to say between intervention considered in its different aspects and results obtained. This analysis is fundamental when, as in the case considered, one wishes to experiment not at random but by modifying the variables effectively involved. It may be effected by the techniques of multicriteria analysis; one will do well to control the statistical study by the analysis of the processes of change which in any case, even in the absence of the former, will yield interesting indications as to the interconnexions between causes and effects.

3. The fields of experimentation

A series of examples of possible experimentations in the most varied fields will be proposed here, with in each case an indication of the hypotheses that can be made, of the organization of the experiment and of the measurements that can be made.

3.1 Differential receptivity to identical functional literacy actions in social groupings distinguished according to their sociological characteristics.

Hypotheses. Many hypotheses can be made on this subject, useful at the same time for the explanation of results obtained, for the choice of the populations to be made literate and for the methods of approach; they cannot all be mentioned.

(1) The cultural minorities who are conscious of their situation as a minority are more open, seek more actively the raising of their level of knowledge and skill than the majorities. On the contrary, when the effort of education seems to have as its objective an integration of the minority, it is more violently refused.

(2) The groups or groupings in the process of being restructured are more receptive than those whose modes of existence have not been disturbed, to the idea of education and especially of functional education that tends to accelerate the process of adaptation. (Examples: pioneer villages, regions in which new crops are introduced.)

(3) The possibilities of action are greater in social groupings in which the status of the illiterate is low (in general, groupings in which an appreciable proportion of literate individuals already exists).

(4) Considerable differences may exist within the same population according to categories of age, of sex, social and vocational. It thus seems that in many regions women, for a variety of reasons, show a greater interest in education than men.

Organization. Here only given experimentation can be considered. Having applied a functional literacy programme to a region composed of diverse populations, one seeks to explain the results.

Evaluation. Drop-outs and absences, results of literacy teaching, theoretical and practical results, compared in terms of the social categories distinguished.

3.2 Differential receptivity to identical functional literacy actions in social categories distinguished according to their psycho-cultural characteristics.

Hypothesis. Numerous psycho-cultural characters have an effect on the receptivity of populations to an action of the type contemplated: perception of the scriptural symbols and the images representing the real, retention capacities habitual modes of numeration and counting, logical and morphological characters of the language, mode of explanation and of representation of the phenomena of nature, cosmogony, etc.... The adaption of teaching to this combination of characteristics improves its reception.

Organization. A certain number of characteristics involved are known from the outset, others will be brought out by the studies preliminary to the establishing of the programme (studies of the social category). The teaching can thus take these into account. Other characteristics will appear only with time, in the practice of teaching. Their knowledge and their use belong to the field of experimentation by successive adaptations. This experimentation can be carried out in a small number of experimental centres.

Evaluation. This is the responsibility of the instructor himself or of a person assigned to follow the class from day to day. One of the other must be on the lookout for resistances of a psycho-cultural order that manifest themselves, seek their origin, find a way of overcoming the difficulties. The lessons learned from the experiment can be used elsewhere, either gradually, or in connexion with a new cycle. The evaluation of the results of the experimental class or classes is not very meaningful here.

3.3 Content of programmes

Hypotheses. (1) Three modes of choosing and preparing the contents may be distinguished:

(i) universal mode; this is the de of the traditional primary teaching manuals, all the problems of a field are taken up in accordance with the logic of the field;

(ii) encyclopaedic centred mode: around a given topic, conceived as the centre of the programme (pineapple growing, for example), the traditional procedure is reconstituted, all the knowledge that may relate thereto is considered;

(iii) problematic mode: the content of the programmes is limited to the present shortcomings in knowledge and skill of the population considered in relation to what they ought to know in order to accomplish the tasks entrusted to them under good conditions.

The hypothesis may be made that the second method is preferable to the first and the third to the second. (2) The contents may be conceived in a technocratic way, they can be generated on the basis of production plans fixed in advance, the effectiveness of the procedure may be doubted when it is applied strictly to independent peasants. It would then appear useful to understand what their needs of knowledge are (it will often be perceived that they are linked to the problem of marketing) and to take these into account. More generally, it seems difficult to capture the attention of adults in connexion with contents in which they do not have an immediate interest.

Organization of the experiment. Generation of the contents in accordance with the different methods, in the last case based on a survey covering the interests, the knowledge, the skills of the population considered. Implementation of the different methods in comparable categories of centres.

Evaluation. Comparison of the results obtained, analysis of the satisfaction of the participants.

3.4 Progression

Hypotheses. (1) The concept of school progression based on phonetic progression seems to have to be abandoned in the field of adult education; primacy must be given to the progression of the functional training into which a phonetic progression must become integrated. (2) It is well to integrate the training at the rate of the vocational activity (agricultural periodicity, programme of industrial production, etc....) (3) The adoption of an average working pace for the group constituting a class is less to be favoured than the possibility given to each one to progress according to his own pace. (4) The efficiency of teaching can be improved by programmed instruction, a technology of making the student learn which consists in individualizing teaching in the framework of a programme such that any progress is based on knowledge already proposed and received.

Organization. The adaptation of progressions and rhythms to the aptitudes of the illiterate adult further requires efforts of research and innovation. One can set up experiments based on the hypothesis formulated, but it is necessary in this field to maintain sufficient flexibility in order to find the best solutions and therefore to leave room for experimentation by successive approximations and for experimentation of their own possibilities by the participants.

Evaluation. Analysis of the experimentations, pedagogical observation, measurement of the results.

3.5 Methods of communication

Hypotheses. (1) An autocratic attitude on the part of the teacher is less effective than a democratic attitude: the removal of anxiety in the pupil shortens the training period considerably. (2) Methods of training, of conditioning (repetition of gestures) which ignore the interests of the person taught, based on the individual teacher-pupil relationship, give less good results than active methods based on group discussion, stimulation, pupil participation in the drawing up and the carrying out of their programme, on the concept of interest. (3) The traditional fragmentation of the subjects taught, which the adult like the child finds himself unable to restructure, creates anxiety (especially among those with strong sensory perception and those with a concrete turn of mind, who undoubtedly form the great majority in the population considered), the structuring of the information material, lessons given in a synthetic and non-cumulative form therefore presents an advantage. (4) For the same reason, a teaching in contact with the concrete, with practice, passing from the description of the experiment to its interpretation through science appears more beneficial than an abstract teaching, proceding by an affirmation of principles without reference to life. (5) Along the same line the use of a vocabulary that is used in everyday life and occupation is preferable to a vocabulary that departs from the usual; what is important, moreover, is not only the reference of the words to practice, but especially the weight of meaning that they can convey in the semantic context of the page of reading, their informative power. (6) It would certainly be worth while to develop, along with the methods adapted to individuals who have possibilities of intellectualization, of conceptualization superior to the average, methods better suited to individuals who have the possibility of feeling, of understanding things intuitively (appeal to analogy, to parable, to intuitive perception, to spiritual comprehension, etc....).

Organization. If one considers it necessary in an initial stage to study the mode of application of these different hypotheses, one can proceed in a very small number of classes by the method of trial and error experimentation. However, considerable experience has already been acquired in these fields, except perhaps as to the last, and it is possible to envisage an organized application, prepared in advance, of the methods proposed. In the framework of these methods, incidentally, the last form of experimentation, that of the self in the universe, takes its place.

Evaluation. Comparison of the efficiency of the new methods with that of the traditional ones.

3.6 Pedagogical auxiliaries, individual and collective.

Hypotheses. (1) Neither for the teacher nor for the taught is the traditional manual likely to be the best pedagogical instrument. Standardized, programmed guide-cards, carefully prepared in advance, corresponding to each course, handed out progressively, arranged in sequences, appear to be a much more effective instrument. (2) Along with these basic aids to oral teaching that the manuals or the cards constitute, it seems a good idea to have recourse to a series of auxiliaries the use and the value of which are still not sufficiently well known: these pedagogical auxiliaries may be classified into three categories:

(i) auxiliaries for individual use - programmed or semi-programmed tapes (the different stages of the pupil's work are taken up, he goes through them in order at his own pace), booklets, series of cards to consult, teaching boxes, etc.;

(ii) auxiliaries that can be used in class groups: posters, slides, photographs, films, educational travels;

(iii) auxiliaries that can reach masses of individuals: newspapers, radio, television which ought to become instruments of education instead of being merely means of communication. They could be particularly useful when distances are great, within culturally homogeneous regions having problems of change common to them all.

Mass communications can also be used to disseminate and supplement the instructions intended for the instructors (mimeographed notes, "teleguiding") as well as to provide additional information and reading material within the framework of the functional education programmes. In order that this use of mass communications may be effective and efficient, it should be learned in the course of the teaching periods. It is indeed between mass communications and individualized teaching, between two effective methods which do not appear to go together; it seems in fact that we are moving in the direction of a televised and programmed teaching technique.

Organization. In these fields of pedagogical auxiliaries, experimentation usually requires a considerable initial investment, on the level of thoughtful planning especially, but also on the financial level. It is well, therefore before deciding on a test, to obtain precise documentation, then to plan it carefully.

Evaluation. Comparison of the results obtained by groupings in which pedagogical auxiliaries or combinations of different auxiliaries have been used. Study of the processes (psychological, psycho-social, social) of change in the framework of recourse to different means.

3.7 Differential value of the instructors according to their social and vocational backgrounds.

Hypothesis. In functional literacy several functions are to be encountered: literacy instruction itself, theoretical teaching, practical training by demonstration, group discussion. One may wonder what kind of instructors are best suited to fulfil these functions and imagine different answers: primary teachers, technicians (agricultural extension workers, industrial foremen), engineers, group leaders and different combinations of these types of persons. It seems that it is simpler to train a non-teacher in the techniques of teaching reading and writing than to train a teacher in the techniques of production. It seems, moreover, that the teacher-taught communication is at its optimum when the instructor is at a level immediately above that of the individuals under him, both in the field of instruction and in professional success. These hypothesis are yet to be verified.

Organization of the experiment. The difficulties frequently encountered in finding instructors incline one to conform as closely as possible to the conditions of reality and hence to practice, at least initially, the "given" experimentation. In a second phase, when one has a better knowledge of the limits of validity of each of the solutions, one may adopt, in so far as it is possible, a more systematic practice.

Evaluation. Results obtained by the different categories of instructors, classified further according to the elements relating to their level of instruction, their vocational success, their status in the local group, etc.... An effort to understand the factors that facilitate or inhibit communication.

3.8 Methods of training the instructors

Hypotheses. Certain factors can be of help in formulating hypotheses as concerns modes of training. One must first choose between study courses and the use of self-training lesson plans prepared in detail and programming the material to be covered in each session. This solution is no doubt one of the most effective and the least costly. If one chooses the first, one can consider full-time courses for a great number of participants, having the advantage of the stimulation, the number of contacts and discussion, or part-time courses (week-ends, for instance) which have the advantage of requiring less drastic progressions, of constituting a less abrupt departure from the participants' accustomed routines. For the actual pedagogical training, one can either give courses of the "how to teach" type or - an apparently better method - have the future instructor go through the experience of good and bad teaching situations, followed by discussions aimed at giving a theoretical foundation to the contrast in methods. The content of the study course may itself vary, be strictly adapted to the teaching that is to be dispensed and to the instructors' weak spots, or be more or less encyclopaedic. If the part-time itraining course is chosen, the totality of the sessions may be held before the literacy-instruction period or, on the contrary, be parallel to it, like a permanent refresher course. One may finally choose to hold the courses, whatever the periodicity chosen, either in special centres or in "demonstration centres" which have the advantage of providing conditions close to those of reality.

Organization. Different methods may be adopted in each of the sub-projects or, better, in connexion with the training of successive generations of instructors for each sub-project.

Evaluation. The performances of the instructors can be measured before and after each course. This method, however, is not adapted to all the types of training envisaged. If it is observed that what is essentially expected of the instructors is to succeed in the training of those who are taught, the measure of the latter's success or failure appears as the best measure of the quality of the training given to the instructors. One must of course make sure that the populations taught are in each case analogous.

Here again the results will have to be explained by a detailed analysis of the content of the training of the instructors and of its effect on the teaching proffered.

3.9 Problems of places

Hypotheses. (1) One can first try to find the most appropriate place for the theoretical training activities (in or outside the factory) and the practical training activities (shop, school, or in the field; control field, collective field or individual field). It seems that the places corresponding to concrete situations are preferable to those that are separated from the working life. (2) In addition, to the extent to which the resources and hence the number of centres open are limited, one may question oneself as to the distribution of

the most favourable centres, in a rural area, for the dissemination of innovations; the choices as to whether they should be scattered or concentrated must of course be related to the organizational characters of the regions considered. (3) There will almost always be some instructors who are more competent than others, so that one might well want to make of the centres where these instructors are to be found control centres where methods, techniques, new means could be tested which can serve for the training of instructors who are less good and who live in nearby villages.

Organization. Carry out experimentations of limited character before passing to a phase of wider extension.

Evaluation. For the first hypothesis, evaluate the conduct and the results obtained in two different projects. Second hypothesis, study the dissemination of news and innovations from some point of the region considered. Third hypothesis, results obtained in two different types of organization.

3.10 Problems of time

Hypotheses. (1) The hypothesis that the progression of the training should be linked to the vocational duration has already been formulated; should the link be one of concomitance or of precedence, what is the optimum lag? It is difficult to give an answer to this question at present; it varies, no doubt, in terms of the retention capacities and of an aspect that has been less analysed: the time needed for the assimilation and the integration of theoretical data in the practice of production. (2) Taking the time of functional literacy-teaching from the working time does not appear to diminish the workers' productivity and has considerable advantages on psychological level. (3) The optimum periodicity of the courses (two, three times per week, every day) is little known; it surely depends on interest, on fatigue, on the rapidity needed for quick successes, etc..... (4) The same uncertainty exists as to the duration of the courses. (5) It is well to distribute rather precisely the time of each course that is to be devoted to this or that activity (reading, discussion, etc....) (6) The number of cycles that each individual should attend must be calculated in such a way that at the end of his study he has reached a level (in actual literacy and elsewhere) sufficient to prevent his returning to his previous stage.

Organization and evaluation. See in the case of each one of the hypotheses the methods that are applicable.

3.11 Responsibility for functional literacy instruction

Hypothesis. When the vocation milieu (enterprise, development institution, rural community) does not assume responsibility for the literacy operation, it is difficult to functionalize it, more difficult still to use the problematic approach as concerns contents, and not easy, finally, to succeed in the absence of the support of those concerned for the action contemplated. On the other hand, the most favourable conditions are assured by the integration of vocational training into a training plan of the enterprise, and by an organization of this training, that the production cadres become training cadres.

Organization. Along the lines of the "given" experimentation.

Evaluation. Study of the psycho-social and social processes, gathering of the results of training.

4. Conclusion

The World Functional Literacy Programme is an experimental programme. Each project, in terms of the objectives that are set for it, the circumstances, the specific capacities of its cadres, should work out an experimentation plan supported by a corresponding evaluation plan. It can be said that the conditions for making experiments are always present, the factors available are diverse and vary in time, one meets up with successes or failures which require to be measured and explained, etc.... In fact one always experiments, but usually in a disorganized way; what appears first to be necessary is a change of attitude with regard to this spontaneous experimentation, so as to transform it into deliberate and controlled experimentation. To be sure, each one of the projects cannot have the ambition of testing all the hypotheses mentioned in the course of this study (which presents only a part of those that can be made). Each one choosing a small number, the knowledge of all will be improved and progress will be made in the education of the masses of illiterate adults.