A SYSTEMATIC REVIEW OF RESEARCH RELATED TO METHODS OF ADULT EDUCATION

by

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The purpose of this review is to organize the findings of studies on adult education methods according to the Winer conceptual scheme, defining adult education processes according to their inherent characteristics, and to extend or clarify any parts of that scheme.

The material reviewed, mainly empirical research conducted with adult subjects, is used to describe the method, the effects of the learning and the characteristics of the participants. The learning goals are classified as information giving, skill developing and knowledge supplying. As the majority of methods had been studied for their uses, little research was available on their maximum learning potential.

From the description of the methods the key element emerged as the amount of overt participation built into the method, ranging from lowest in methods whose goal is to impart information to greatest in those where learning is conducted on-the-job.

The participant studies revealed that the structure of some methods must be modified for more efficient learning.

The research showed that the learning goal became more concrete as the amount of overt participation increases. Therefore a two-dimensional classification scheme has been developed with the amount of overt participation occupying one dimension and the degree of abstraction of the learning goal the other. Areas requiring further research have been indicated.
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Winona Elizabeth Stinson
CHAPTER I

PURPOSE OF THE THESIS

I. INTRODUCTION

The development and expansion of a body of knowledge depends on the systematic accumulation of information that is woven together into a logical structure. Adult education is a rapidly expanding discipline that lacks an integrated structure through which diverse research findings can be woven together with a common theoretical thread. This situation is not unique as it has been shared by all disciplines in their formative stages in that diverse empirical investigations have always preceded the establishment of the theoretical propositions which ultimately provide the structure by which such diversity is ordered. In adult education there is an extensive body of empirical research relating to the instructional processes which has not here-to-fore been integrated and analyzed because of the absence of the pre-requisite theoretical basis for such.

II. PURPOSE OF THE STUDY

The purpose of this thesis is to review and organize the research which has been done on the methods of adult education using the theoretical structure proposed by Verner (62) as the basis for the analysis.
Periodic reviews of research are indispensable tools contributing to the advancement of knowledge in a discipline because they provide an inventory of what has been accomplished and thereby identify areas in which further research is needed. Such reviews, however, are virtually useless without a theoretical structure to establish some kind of systematic basis for the analysis of achievement and need. In adult education this theoretical structure has been wanting here-to-fore so that previous reviews of research have been unable to do little more than itemize research accomplished in the instructional area of adult education.

The presentation by Verner (62) of a theoretical structure for the analysis of the instructional processes in adult education provides the missing framework for the review of research literature. The present study attempts a review of research related to one aspect of that theoretical structure which is defined as the method of adult education. Previous reviews by Stott (60) and McCowan (48) have handled the question on techniques and devices within the Verner theory. Together, these three reviews provide a bench-mark for research in the realm of instructional processes that permits a systematic review of achievement and an identification of areas in which further research is needed.
IV. REVIEW OF THE LITERATURE

As noted above, previous reviews of research relating to instructional processes in adult education have been inventories of miscellaneous research studies rather than systematic analyses of a specific body of knowledge due to the lack of any theoretical structure to provide a basis for the integration of research data. While such previous reviews provide useful source material they do not and cannot function as periodic statements of systematic progress in the development of knowledge about the instructional processes of adult education.

Dickens and Heffernan (20) in 1949 reviewed research literature produced between 1924 and 1946. They included forty-three studies consisting of twenty from psychology and twenty-three from speech. A large portion of the review was devoted to a critique of experimental procedures. They noted that the psychology experiments tested discussion under laboratory conditions, and were concerned about how these results could be applied in actual situations. They were particularly critical of the lack of scientific controls under which the speech experiments were conducted.

Keltner's (37) review, 1949, summarized forty-one studies in psychology, speech, adult education and child education done during the period 1940 to 1948. Although the author did not specify which studies used adults and which non-adults, the bibliography indicated that many of the studies were conducted with non-adult subjects. The
material was compiled under sections entitled group process, discussion in the classroom and the problem of leadership. Most of the empirical studies were concerned with the effects of group discussion techniques on various aspects of learning.

Sheats and McLaughlin (57), in 1950, reviewed sixty-nine studies which covered the period 1944 to 1949. They were gathered from the disciplines of adult education, child education, agricultural extension and social psychology; the majority used adult subjects; some of the studies were empirical and some non-empirical. Various processes were examined under a classification scheme consisting of three categories, inter-personal communication methods, small group communication methods and large group communication methods. Under inter-personal communication methods they dealt with correspondence study, the tutorial, farm and home visits (directed individual study) and the techniques of role playing and psycho-drama. In small group communication methods much of the material was non-empirical; all of the empirical material examined pertained to group discussion techniques such as a study of leadership roles and the effects of certain group climates on the group process. Under large group communication methods Sheats and McLaughlin dealt with the conference, the workshop and the institute. Most of this material was non-empirical and dealt with the technique of Philips' (66) role playing and socio-drama. The classification scheme used was similar to that used in agricultural extension which is based on the amount of communication possible among participants in the learning
situation, e.g. in individual contact and group contact methods. This classification scheme included methods and techniques.

The summary of twenty-four studies by Essert, Lourenco-Filho and Cass (22), of 1953, was based on studies done during the years 1937 to 1952, with adult subjects, in the disciplines of adult education and rural sociology. All of the material was non-empirical. Mention was made of the technique of teaching reading to adults within the class method. They also discussed research pertaining to audio-visual devices which is not within the scope of this thesis.

In 1956 Crile (17) compiled a summary of forty-three studies on meetings held in agricultural and home economics extension work in the United States. No critique of the studies was given, but the author did indicate when adult subjects were used. All of the research examined was empirical. Findings on attendance at meetings, their effectiveness in producing adoption, and the comparative effectiveness of meetings versus other agricultural methods were presented. Crile's review contained abstracts of the studies.

In 1959 Verner (61) examined forty-eight studies and articles which dealt with adult subjects during the period 1953 to 1958 in the disciplines of adult education, rural sociology and social psychology. He discussed meetings, exhibits and bulletins. The findings were organized under sections entitled evaluative studies and factors influencing method. He indicated that many of the studies based their findings on experience rather than on scientific study. He
presented research evidence which measured the learning effectiveness of these processes. This review reported the theoretical and non-theoretical work done in remedial reading with adults which was concerned with the effects of teaching reading to adults in a workshop.

Under "evaluative studies" Verner (61) presented the results of experiments which tested the learning effectiveness of method in the adoption of practices and the effectiveness of one method as compared with another. In this section he reported on correspondence study, the class, agricultural group contact and individual contact methods. The last section of the review dealt with "factors influencing methods" in which he discussed correspondence study, agricultural and individual group methods and how the effectiveness of these methods was influenced by such factors as age, education, and the work and study habits of the participants.

Brunner (11), in his 1959 review, devoted two chapters to a survey of adult education methods and techniques. Seventeen studies and research reviews were examined by Brunner, covering the late 1940's and the 1950's. He dealt mainly with meetings under such headings as effect of the meetings, early extension studies and role playing, in the disciplines of adult education, rural sociology and social psychology. He summarized the results of meetings on the adoption of practices.

In Chapter X on "The Use of Discussion", Brunner (11) discussed eighteen studies which had been done prior to 1958. One section was devoted to a review of the studies which compared the effectiveness of
the class and the discussion group in producing certain measurable learning such as attitude and opinion changes. The title of this section "lecture vs. discussion" might well have been "class vs. discussion" because the studies involved method as well as technique. Not all of the studies in this section were performed with adult subjects although the author did indicate whether or not adults were used. The last section of Chapter X presented results on the technique of group discussion with particular reference to discussion leadership.

Commenting on the quality of experimental procedures used in the studies Brunner said:

In terms of the total research on the subject, a great majority of the studies have been in colleges and universities and have used college students, a "captive group", for subjects. The studies by psychologists have been criticized in terms of the artificiality of the situations and their neglect of the social pressures involved in discussion. Those by others are said to be weak in design and not rigorous in procedure. As with the studies by psychologists over 90 per cent of the subjects were high school or college students. There is no guarantee that the findings, often contradictory, would be valid for non-student groups in non-student situations. (11: P.170).

In a 1960 review Dietrick (21) included 185 studies on "lecture" and "discussion" covering the period 1920 to 1959, in the disciplines of adult education, social psychology, sociology, communications, rural sociology and speech. Although he called his review "A Comparative Study of Lecture and Discussion Methods" Dietrick did not make any distinction between the class method and the lecture technique, nor between the method of the discussion group and the technique of group discussion although he attempted to define the terms lecture and discussion and to organize the
review on the basis of these definitions. His review did contain information pertinent to both the class and the discussion group.

Dietrick's (21) findings were organized according to the learning acquired. The findings on the effects of the learning were discussed under acquisition of information, the retention of information and attitude change. He attempted to classify these processes by the kind of learning goal, and he indicated there was a great need for a conceptual framework to be developed so that meaningful research could be done. Lacking this, research on adult education has been characterized by a lack of precision and a proper theoretical basis.

Much of Dietrick's (21) review was devoted to a critique of research procedures; he questioned the use of non-random samples and criterion measures, the absence of control groups and the lack of control over the teacher and student factors. He also questioned the validity of experiments done with college students and their applicability to true adult education situations. In this connection he said: "Not only has research been done in a college situation, but the youthfulness and general grade-orientation of the majority of samples make it difficult to apply the findings that are available to the adult education situation." (21:P.111).

In a chapter on methods and techniques used in the educational programs of the armed forces of the United States, Goulette (28), in 1961, examined twenty-two studies carried out in the period from 1947 to 1960. Methods examined were the class and correspondence study. He
used the Verner scheme to differentiate between method and technique. Most of the studies dealt with the effectiveness of certain techniques used within the class method and the teacher-student interview (directed individual study). The findings on the problem of retention in correspondence programs were related to the method of correspondence study.

The nine reviews considered here were published between the years 1949 and 1961 and covered studies in various disciplines; child education, psychology, adult education, speech, communications, social psychology, sociology, agricultural and home economics extension, and rural sociology. Both adults and non-adults were used as subjects although in the main the studies were concerned with adults. Both empirical and non-empirical material was used.

In the earlier years, prior to 1959, there was little attempt made to distinguish between method and technique. Three of the reviews, Dickens and Heffeman (20), Keltner (37), and Essert, Lourenco-Filho and Cass (22), were concerned with techniques; two, Crile (17) and Verner (61) dealt with methods; four, Sheats and McLaughlin (57), Brunner (11), Dietrick (21) and Goulette (28) considered both method and technique, but only Brunner and Goulette made any attempt to distinguish between them.

Dietrick (21) as well as Sheats and McLaughlin (57) classified their research into categories; Dietrick on the kind of learning goal achieved and Sheats and McLaughlin on the amount of communication allowed for in the method.
Almost all of the reviewers commented on the lack of precision with which the studies were conducted. Brunner (11) was particularly critical of the experimental procedures used. Dietrick (21) noted that not only was the research poorly conducted but it was without any theoretical framework. He stressed the need for defining processes and for a theory of method so that all existing and future research could fit into an integrated body of knowledge which would benefit the practice of adult education.

It is now obvious there is need for a review of research structured under a precise theory of method which attempts to define and analyze research on methods in terms of their inherent characteristics.

V. PLAN OF THE STUDY

The theory of method proposed by Verner (62) provides the basic structure which is used in this review. This theory will be explained at the outset and the research studies reviewed will be selected on the basis of that theoretical structure. Only studies of an empirical nature, based on observation and experiment, using adult subjects will be considered in this review because the primary aim is to provide the discipline of adult education with information about adult education methods which will help in the practice of adult education.

The review and analysis of the research studies is complicated by the absence of any agreement and use of terms precisely. As noted later, Verner's theory establishes a precise terminology which must be
applied to each study to determine if it is to be included in this review on method. This involves an analysis of each study and an interpretation and translation of its terminology into that employed by Verner. Consequently, some research purporting to be concerned with the method of adult education is actually treating techniques or devices and is excluded from this review.

After the research studies have been summarized, the findings will be applied to an analysis of the Verner theory in order to examine it in light of the extant research.
As in many academic disciplines, adult education began as an area of practice rather than as a subject of study. Consequently, when research was undertaken it sought to solve immediately pressing practical problems. In time, a substantial body of research literature was accumulated in which each separate study stood in isolation because there was no basic theoretical structure to which they could be related. This tended to retard the development of any systematic body of knowledge about instruction and the instructional process in adult education.

Eventually, first in 1959 and again in 1962, Verner (62) published a conceptual scheme which established a theoretical structure that permitted the systematic analysis and integration of previous research looking to the establishment of a systematic body of knowledge about instructional process in adult education. In his Introduction to the 1962 publication, Glenn S. Jensen noted: "... this publication, has done much to eliminate the confusion which may exist and to establish some precise terminology for identifying methods and techniques." (P.vi). Brunner (11) noted that "It may be said that concern over precise definition of the two terms, methods and techniques, is evidence of the growing maturity of a discipline." (Footnote P.142)

In his statement of the theory of method, Verner defines adult education and then identifies the constituent elements in the processes
of adult education which had previously been confused. In defining adult education Verner notes:

Adult education is the action of an external educational agent in purposefully ordering behaviour into planned systematic experiences that can result in learning for those for whom such activity is supplemental to their primary role in society, and which involves some continuity in an exchange relationship between the agent and the learner so that the educational process is under constant supervision and direction. (62:p.2-3).

This definition describes adult education as a two-step process. The first step involves the action of the institutional agent in establishing a relationship with an unidentified public; this is contained in that part of the definition which states: "... adult education is the action of an external institutional agent in purposefully ordering behaviour into planned systematic experiences ...". The second stage in the process involves the action of the instructional agent which is identified in that part of the definition which states: "... and which involves some continuity in an exchange relationship between the agent and the learner so that the educational process is under constant supervision and direction." This is a distinction of great importance in arriving at an understanding of the role of both the institutional and the instructional agent. Thus the functions of method and technique are separated in the educational process.

Further clarification is achieved by concise definitions of method and technique in the following terms:
Method, then, may be defined as the relationship established by the institution with a potential body of participants for the purpose of systematically diffusing knowledge among a prescribed but not necessarily fully identified public.

Technique, on the other hand, may be defined as the relationship established by the institutional agent (adult educator) to facilitate learning among a particular and precisely defined body of participants in a specific situation. (62:p.9).

The institution may use apprenticeship, the assembly, the class, correspondence study, directed individual study, the discussion group, internship, the laboratory and the workshop as methods depending upon the potential pattern of organization appropriate to the participants, the learning objective, and the resources of the institution.

The techniques which an agent may decide to use will depend exclusively on the nature of the learning task, whether abstract or concrete, and the degree of overt involvement allowed the participants in the learning situation. The lecture and the speech are primarily informational techniques, requiring little overt participation; assimilative techniques such as group discussion and role playing require more overt participation.

The objective of both method and technique is to promote learning. The method establishes the environment for learning in which certain goals may be attained by certain kinds of people, whereas techniques facilitate the learning of specific tasks by a precisely defined group of persons. The technique operates within the context of the method, as the lecture within the class or group discussion within the discussion group. The general learning goal will in part determine what technique
is required. The institution chooses the method principally on the basis of the characteristics of a potential group of learners, whereas the instructional agent chooses a technique on the basis of the nature of the learning task. Of course the kind of method selected may limit the choice of technique as is the case in correspondence study. On the other hand, apprenticeship for example offers a wider choice in the selection of technique since the general learning goal here is the development of a vocational skill which involves learning a series of skills. The student must first receive information, see it demonstrated, practise it and then try to apply the skill acquired in reality. For all these tasks the instructor will use a variety of techniques, one for imparting information, one for demonstration and another for practice until the apprentice acquires the skill. In a method such as apprenticeship an agent may use a variety of techniques for whatever purpose the task requires.

Each method dealt with in Chapter III will be reviewed according to the same format based on Verner's (62) definition of method. From the definition of method it is apparent that information must be sought on the general learning goals, on the amount of overt involvement allowed for in the structure of the method and the characteristics of the population. For these reasons each method is reviewed according to a pattern which includes the description of the method, the research designs and findings of the studies, including both the effects of the learning and the characteristics of the participants. It is essential to know what
the structure of the method is, what the method accomplishes and who the participants are.
CHAPTER III

REVIEW OF METHODS

I. APPRENTICESHIP

Apprenticeship is one of the methods used in vocational education which is concerned with training people for a future work role in society. Verner has defined apprenticeship as a method in which a relationship is established in which the learner acquires knowledge and skills through direct participation in learning under immediate personal supervision in a situation that approximates the conditions under which the knowledge will be used. (62:p.14)

Prior to the twentieth century apprenticeship was identified with pre-adults, and in the main still is. In that earlier period it was the only method of vocational education; apprenticeship was strictly non-institutional, apprentices were taught in a commercial establishment and the training they received was on the job. The trend now according to Prosser and Quigley (50) is for technical education to be combined with apprenticeship training. The learner receives his theoretical training in a technical school and his practical training on the job, the latter constituting his apprenticeship.

There is no research available on apprenticeship, however this may change because of the emphasis being placed on apprenticeship in vocational education and upgrading programs.

It is obvious that apprenticeship is a method in which very practical techniques are used in the area of applied learning.
The term meeting has such broad meaning and varying connotations that another word is needed to designate a gathering together of people for learning purposes. A meeting brings to mind a political gathering or a business meeting of a club or corporation. The word assembly may be better in the context of methods of learning, although assembly too has other meanings such as the legislative assembly.

Verner defines assembly as:

a specifically structured situation for learning involving, generally, a fairly large number of people for a single independent or series of independent or sequentially ordered events in which there is limited participation and the major control of the learning situation is held by the agent. (62:p.16)

The assembly then is a process which is characterized by shortness of time, by large attendance, and by limited participation by those assembled. It is a very important method and is used widely in extension work and in community development, but it has been studied only in agricultural extension. It is used for the purpose of disseminating information about new agricultural practices, the usual pattern being to hold extension meetings with lectures followed by demonstration or audio visual aids.

All of the research on the meeting in agricultural extension has been summarized in the Crile (17) and Wilson and Gallup (66) reviews. Some material on "meetings" also is discussed in the section on Directed Individual Study in this thesis. There will be no description here of the research designs as many of these are dealt with in Directed Individual
Study and in the Crile review.

Findings

Effects of the Learning

Adoptions. Wilson and Gallup (66) found that the total number of practices adopted as a result of extension teaching was more closely associated with certain methods than others. Method demonstration meetings with a coefficient of $0.605 \pm 0.095$ affected more adoptions than general meetings which had a correlation of $0.368 \pm 0.130$. Of adoptions 32.8 per cent were credited to group contact methods (all forms of meetings) which was higher than the percentage of adoptions credited to individual contact methods, mass media methods and indirect influence (friends and neighbors). The assembly was used more often in home economics extension than in agricultural extension and as a result was responsible for a greater percentage of adoptions. When an index of effectiveness was calculated, group contact methods had a higher index of effectiveness in home economics extension than in agricultural extension.

In the section on Directed Individual Study it is reported (p. ) that Beal and Rogers (6) found group contact methods (assembly) and individual contact methods (directed individual study) were most effective at the awareness and information stages of the adoption process.
Participants

Attendance. Crile (17) found that those participants who attended all kinds of meetings tended to listen to the college radio station, had more education, had a larger farm operation and did not live as far from the meeting place as the participants who did not attend as many meetings. Wilson and Gallup (66) found that those participants who had a high socio-economic status tended to use the agricultural agent at meetings and on an individual basis more than those participants who did not have as high a socio-economic status.

Summary and Conclusions

The assembly has been studied extensively in agricultural extension but not in other fields. In agricultural extension the assembly is usually held once with the agricultural agent using lectures, audio-visual aids and demonstrations to disseminate information about new agricultural practices. As a group contact method the assembly was found to be most effective in the early stages of the adoption process. Generally the agricultural assembly seems to be more effective in producing adoptions than individual contact. Participants in the higher socio-economic bracket seem to be the greatest users of the assembly.

More work needs to be done on the assembly, particularly in community development, in order to discover its full learning potential.
III. CLASS

Introduction and Description

The class is the major method used in education in North American culture. It is traditionally associated with the school room, university lectures, short courses, and in fact, any kind of organized formal education. It is also a major method in adult education.

The class is a method in which one technique, the lecture, dominates. Thus, the terms "class" and "lecture" have been used synonymously in the literature. Frequently the word "course" is used, particularly in university education, as a synonym for class and it is common for a student to say he is taking courses in a subject meaning that he is enrolled in classes in that particular subject. The terms "course" and "lecture" are used interchangeably in the research.

Very few studies have attempted to describe the class, because the term is so familiar to the reader that the investigators felt a description was unnecessary. However, the research done outside of the university in other areas of education has provided some information on what techniques were used and how much interaction took place between teacher and learners and among learners.

Verner defines the class as:

A sequence of learning experiences arranged in a systematic order of predetermined duration generally structured around a limited segment of knowledge in which the agent is charged specifically with the general direction, organization, and control of the learning experience. This method is used primarily as a means of achieving
individual learning where it is possible and thus more economical to collect individuals into a group. It may or may not move beyond this collection of individuals and become a unit in which the social processes of the group become a major influence on learning. 
(62:p.15)

There are several factors in this definition which act as guidelines for an examination of the research for a description of the method. These are: that the knowledge to be learned is usually offered in packages of a definite length, as in studying educational psychology 100 for two semesters; that a specialist in the subject area is responsible for all information giving; that because of the limited interaction among students in this method the direction of interaction is from instructor to students so that the social processes will exert very little influence on learning. In essence, the class is a collection of individuals and not a group in the social sense.

In their experiments, Anikeeff (4), Costin and Johnson (16) and Farnum (24) referred to the class as "courses". They were all interested in testing the amount of information acquired from university evening courses. Hedrick (32) described the class in her study as a learning experience constructed to change attitudes. Hedrick's study was not concerned with credit courses but with imparting information about child care to mothers. She mentioned that lectures, audio-visual aids and reading material were used to impart the subject material.

Although they referred to the class as a course Costin and Johnson (16) reported that the instructor used both the lecture and group
discussion in the course. LaCognata (40) in comparing the campus extension class to the residential class explained that the instructor in the campus situation had very little contact with the students during class thus implying that all interaction was from instructor to class, while in the residential situation the instructor met the students informally outside of class hours.

Hill (33) described the "lecture" as a time honored authority-centered method in which information is imparted by a subject matter specialist. The class allows for little learner participation and allows for limited social interaction among members because the interaction within this method focusses on the instructor. The studies seem to indicate that the class is indeed an authority-centered method in which the agent directs the learning. When the studies are examined we will be able to find out just what kinds of learning are possible within this method and make some generalizations about the general learning goals peculiar to this method.

The class has been studied within the liberal arts setting and in the evening extension university setting. The concern of the evening school adult educators has been to determine the quality of the learning acquired in evening classes versus that acquired in day classes by undergraduates. According to Hill (33) there is concern among educators about which teaching methods are most effective in achieving the goals of liberal arts education. Not much research is available upon which to base an administrative decision so that such decisions have depended
upon one's philosophical orientation. Two schools of thought prevail: the traditional authority-centered school which tends to regard the class as the only method and the group participation school of thought which thinks of discussion as the most appropriate instructional process to use in a liberal arts program.

According to Hill (33) the objectives of liberal arts fall into three parts: the development of mental abilities and skills; changes in values, interests and attitudes, and increase in knowledge. One of the chief concerns of liberal arts educators has been to find out whether these objectives can be fulfilled more effectively within the class or within the discussion group methods. Another area of concern has been to determine what kind of participants are attracted to each of these methods.

Research Designs

The Anikeeff (4) sample was composed of thirty-nine male evening class students and thirty-nine male campus students. The students were matched according to their initial performance on tests which were given before and after the course. The data from these tests compared the before and after performances of day and extension students in every possible combination. Six comparisons of the data were made for each of the two tests. These results were correlated for statistically significant differences at the .05 level of confidence.
In the Costin and Johnson (16) study the population was comprised of three campus and three extension classes. The final sample consisted of 104 campus and 115 extension students who completed an introductory course in Psychology. The students were matched according to their performance on the College Verbal Ability Test, and were subsequently placed in low and high ability groups. All classes were taught by the same instructor. Achievement tests were given at the end of each of the five parts of the course. To determine ability, Part I of the College Verbal Ability Test was administered during the portion of the course concerned with intelligence. The data were analyzed for statistical differences by the "t" test and the Pearson Product Moment correlation using the .05 and .01 levels of confidence.

The population of the Farnum (24) study was comprised of sixty-eight extension and 120 campus students all of whom were working toward a university degree. To determine academic aptitude, the students were given the American College Entrance Psychological test and the Cooperative Reading Comprehension Score which tests vocabulary speed and level of comprehension. The results were analyzed by the "t" test using both the .05 and .01 levels of confidence.

In the La Cognata (40) study, data for the residential group were obtained from an eight-day course in insurance fundamentals in which sixty persons were enrolled. A non-residential group of seventy-four persons was also involved in the same course. Instructors, course objectives, class material, and class time were the same for both the
residential and the non-residential groups. Data were secured from thirty-one respondents selected at random of whom fifteen were residential and sixteen, non-residential. Five tests were given both before and after the course as follows: 1) an essay-type quiz designed to determine the acquisition of knowledge; 2) a multiple choice test for determining the ability of the participants to apply their knowledge of insurance fundamentals; 3) a state insurance examination which was required of all prospective insurance agents; 4) a "residency" instrument which contained items on student-instructor contact, informal discussion and other forms of behaviour; 5) an attitude scale. The results were subjected to the chi square test.

The sample of the second La Cognata (41) study comprised 2,100 campus and extension students. The extension students represented 12 per cent of those in extension credit courses. A total of thirty-two matched courses were in the sample. The campus and extension students were matched on the following: 1) same term periods, fall of 1961, winter, 1962; 2) same credit course; 3) same instructors. The data consisted of the grades which were achieved from university examinations and were analyzed by the chi square test at the .05, .01 and .001 levels of confidence.

In the McCormick (47) study the sample of thirty-one students was selected from a population of ninety-four extension students. They were selected on the basis of 1) those who had done extension work before going on campus; and 2) those who had been on campus before taking extension courses. Academic records from the years 1960 - 1963 were
compared and grades were analyzed by percentages.

Findings on the Class in the Liberal Arts

Effects of the Learning

Participant Evaluations. In the Hill (33) study, the participants were queried about their general satisfaction with the program, their plans to take additional adult education courses, their preference for the class or discussion group, their evaluation of the reading materials and records and their evaluation of discussion group leaders and lecturers. Of particular importance to this thesis was the preference for class or discussion group as methods.

The majority of those who had preferred the class to the discussion group at the time of enrolling still preferred the class, and vice versa, those who had preferred the discussion group as opposed to the class remained of the same opinion. However, a significant proportion of class participants, at the .05 level of confidence, preferred a combination of lecture and group discussion techniques within the class as they found there was not enough time allotted for discussion. This, would seem to suggest that in a program of this sort not all participants are satisfied with the limited interaction often characteristic of the class method.

Attitude Change. There were tests for differences in ethnocentrism, tolerance of ambiguity, democracy and attitude towards
adult education. Members of both the class and the discussion group who remained in the program became less ethnocentric, more tolerant of ambiguity and more convinced that democratic procedures were efficacious, however, these changes were not significant. These results, which apply only to those who completed the pre and post questionnaires, indicate that attitude change may occur in the lecture class.

Two hypotheses related to the effects of social pressures on group retention were tested: first, there would be a greater likelihood that if an individual's attitude differed from the group norm he would leave a group because of social pressure, and second, these effects would be more pronounced in discussion groups than in classes. Participants whose original scores on the attitude tests were 1.5 standard deviations above or below the mean of the group were classed as attitudinal deviants. The hypothesis that these persons would drop out at a significantly greater rate from discussion groups than from the class was upheld. Social pressures generated within the discussion situation tended to discourage the more authoritarian, less democratic, less tolerant of ambiguity, and more ethnocentric members. Since there were no comparable results for the class participants it would appear that the less enlightened or more enlightened members survived within the framework of the class better than in the discussion group.

Behavioural Change. Changes in reading and viewing habits, friendship patterns, community involvement, and in organizational member-
ship were measured. No major differences were apparent between the reading habits of the class and discussion group members. Significant differences at the .05 level of confidence were observed between the class and discussion group members in the formation of new friendships. The class members did not develop as many new friends from among their groups as did discussion group participants. Discussion group members became more involved in community activities than did class participants at the end of the program. Hill (33) qualified these results by stating that changes in community involvement and friendship formation may or may not be attributable to the methods because the class met at the university and the discussion groups in communities. One of the initial goals of discussion group members was to make friends, which was not mentioned by class participants.

Participants. Buttedahl (12) and Hill (33) identified and compared class and discussion group participants on the basis of certain characteristics such as age, sex, marital status, education and occupation.

Age. In the Hill (33) sample, 40.6 per cent were in the thirty to thirty-nine year age group. At the .05 level of confidence the class had significantly more members over forty than did the discussion group sample. Buttedahl's (12) findings did not parallel those of the Hill study as he found that his lecture participants were significantly younger than were the discussion group participants at the .01 level of confidence; however, most of the participants were within the thirty to
thirty-nine year age group which does parallel Hill's sample.

**Sex.** Both Buttedahl (12) and Hill (33) had more women than men in their total samples. Hill found no significant differences (.05) to exist between the numbers of women versus men in his class and discussion group participants. Buttedahl did find significantly (.01) more women in his discussion group sample than in the class sample.

**Marital Status.** There were differences on marital status. Buttedahl (12) found significantly more single persons in his class sample at the .01 level of confidence, while Hill (33) found significantly more divorced or widowed in his discussion group sample. More of Buttedahl's class sample were unmarried and more of his discussion group sample were married than Hill reported.

**Education.** In the Hill (33) study 84.3 per cent had attended college. Buttedahl (12) also had high percentages of college attendance although the percentage was lower than Hill reported. No significant differences at the .05 level of confidence were found between the class and discussion group participants in the Hill study with respect to years of college, however, Buttedahl reported that participants in the classes had significantly more years of college at the .01 level of confidence than the discussion group participants. Sixty per cent of the class participants studied by Buttedahl had attended college whereas sixty-three per cent of the discussion group participants had high school or less.
Occupation. Both Hill (33) and Buttedahl (12) found fewer discussion group members in the professional and managerial categories and this was significant at the .05 and .01 levels of confidence respectively. Hill had more men in sales and more women in clerical positions in the discussion group sample while both studies had more participants from the professions in the class samples.

Social Participation and Community Involvement. Buttedahl (12) calculated an index of social participation by measuring the number of organizations belonged to and found that there were no significant differences at the .01 level between class and discussion group members. Hill (33) measured involvement in community activities as well as the number of organizational memberships, and in all seven indications of involvement the class participants demonstrated a higher degree of involvement upon entering the program.

Length of Residence. Buttedahl (12) calculated length of residence in the community in order to determine the degree of establishment in the community and found that no significant differences at the .01 level of confidence existed between the class and discussion group participants.

Attitudes Upon Entering the Program. Prior attitudes were measured by Hill (33) in order to determine differences between class and discussion group learners in tolerance to ambiguity, ethnocentrism, adult
education, democratic group practices and their attitudes towards previous discussion group experience. Discussion group participants were found to be more tolerant of ambiguity and more committed to democratic group procedures than class participants. No significant differences were found to exist between the two methods at the .05 level of confidence in terms of ethnocentrism and in their attitudes towards adult education. One significant difference was in the attitude towards previous discussion group experience. The class participants did not find their previous experience with discussion to be as valuable as did discussion group participants. These results were significant at .001 level of confidence.

The reason for enrolling also reveals an orientation toward educational experiences as the class participants were significantly more interested in the subject matter than were discussion group participants at the .05 level of confidence, in fact, 51.6 per cent of the class members gave this as their only reason. The discussion group participants were more inclined to join for social reasons and to make friends from among their fellows than were class participants.

Findings on the Class in Parent Education

Effects of the Learning. The Hedrick (32) study, in the field of parent education, used the class method for the purpose of bringing about attitude change, conceptual change and an increment of knowledge of child behaviour and development. The participants were tested for attitude
change toward self-reliance in children and on what information they had acquired about the motor, emotional and social development of children. Changes in parental concepts of behavioural patterns geared to the development of self-reliance in children also were tested.

The results revealed that significant changes in critical ratios near the level of absolute certainty had occurred in all areas of learning; the mothers had changed their attitudes toward the self-reliance of children, they had acquired knowledge about children, and they had adopted new concepts of behaviour patterns which promoted self-reliance in their children.

The tests of behavioural change were determined by a test of concepts. It would have been interesting if the behavioural change had been tested in reality as it was in the workshop study done by Fleishman et al (26), or perhaps in a role-playing situation as tested by Maier (45) after a workshop in human relations. From the Hedrick (32) study there is no information on whether the behaviours learned in theory can be transferred to the real situation, nor any idea of how long these new behavioural concepts would last.

Findings on the Class in University Extension

**Effects of the Learning.** As mentioned previously, the research on the class in evening extension programs is related to comparing the amounts of information acquired in the extension class and that acquired
in a day class by undergraduates. Adult educators seem to feel a need to prove that the education received in extension classes is just as worthwhile as that acquired through the regular channels at university.

In some cases the amount of information acquired is determined by an achievement score. Anikeeff (4) compared the achievement scores of adults in extension classes with campus classes consisting of undergraduates. On both the pre and post test scores the day students achieved higher marks than did the extension students. The coefficients of correlation for day and extension students were: pre-test exam one (.97), pre-test two (.98), post-test one (.32) and post test two (-.24). In general, the coefficients of correlation differed significantly at the .05 level of confidence from 0. On the basis of these results, the author maintained that the experiment raised questions about the advisability of granting college credit for work performed in evening off-campus extension courses.

Costin and Johnson (16) compared the achievement on examinations of two groups of extension and day students who were enrolled in an introductory psychology course. They found that the campus students obtained significantly higher scores on three of the five parts of the test than did the extension students at the .05 and .01 levels of confidence. The differences between the two groups on the other two parts of the test were not significantly different.

When Costin and Johnson (16) compared the achievement of low ability extension students with the achievement of low ability campus
students the results indicated that there were no significant differences between the two groups; however, when they compared the achievement scores of high extension students versus high campus students it was found that the campus scores were significantly higher at the .05 and .01 levels of confidence.

LaCognata (40) compared the achievement on examinations of campus versus extension students in the following subject areas: education, the social sciences, the applied sciences, the physical sciences and arts, and the humanities. In the social and applied sciences, the extension students achieved significantly higher scores than the campus students at the .01 level of confidence, and in the physical sciences and in the humanities and arts their performances were equal. Only in education were the campus students significantly superior (.01), and these students were graduates. For undergraduates in education, there were no significant differences between the extension and campus students. LaCognata concluded that extension students proved themselves to be equal, and in some cases superior, to campus students.

McCormick (47) compared the extension and campus grades of a group of engineering students who had taken both campus and extension courses. In both cases, their extension marks were higher than their campus marks. The group which had taken extension classes initially had a campus average of 81.5 per cent and an extension average of 87.3 per cent. The group which took campus classes first had an extension average of 82.9 per cent and a campus average of 78.4 per cent. The
author cautioned against generalizing from this study because of the small number of subjects (thirty-one) and because of the smaller course load (two versus five or six for campus work) in extension work per semester.

Both Anikeeff (4) and Costin and Johnson (16) found campus students the better achievers, although indicating that the differences between the two were too slight to say that one was superior to the other. On the other hand, LaCognata (40) and McCormick (47) found extension students to be higher achievers than campus students. Thus, the learning acquired within the extension class seems to be equal to that which is acquired in the campus class.

Participants. Farnum (24) compared the academic aptitude of extension with campus students using a test for verbal ability. On the level of comprehension and vocabulary, the aptitudes of extension students were significantly higher at the .05 and .01 levels respectively, but on the speed test the performance of the two groups was equal. One may conclude then that in this experiment the extension students were equal to or better than the campus students.

As to whether extension students work up to their mental ability as well as campus students, Costin and Johnson (16) found that on all five sections of their psychology examination, the correlations between the mental ability and achievement indicated that campus students did significantly better at the .01 level and that the mental ability-
achievement correlations of the extension students were significant at the .01 level on only two parts of the test. In other words, the extension students were not working as closely to their abilities as were the campus students. Costin and Johnson found that the low ability campus and extension students had equivalent scores in achievement but high extension did not do as well as high campus achievers; therefore, it would appear that it is not the low extension achievers but the high extension achievers who are not working up to their capacity.

Findings on the Residential Class

**Effects of the Learning.** It is a matter of concern to educators whether a method is more satisfactory when it is used in a residential situation or when conducted in the usual fashion for day or night students. LaCognata (40) developed the hypothesis that the residential learning situation was superior to non-residential learning because of the following variables: (1) the isolation of the educational experience - one can get away from other problems and concentrate on learning; (2) the continuity of the learning experience - the program schedule can carry on in an uninterrupted session and therefore afford greater depth in learning; (3) group support - inter-personal relationships which develop because of the opportunities for greater interaction facilitate the learning process and there is more opportunity for the student to meet the instructor outside of the class.

Two groups of prospective insurance men were compared by LaCognata
One group was enrolled in an eight-day extension course and the other group participated in a class in a residential situation where the group lived together during the eight-day period of the course. The learning accomplished was determined by attitude change, the acquisition of knowledge, the application of knowledge, achievement on a state insurance examination, and behavioural change which was measured by a special "residency" instrument. On both the knowledge tests (application and acquisition), the residential students achieved significantly higher results at the .001, .05 and .02 levels of confidence.

The performance of the two groups was almost equivalent on the state insurance examination. The attitude test which measured "degree of professionalization" indicated that the residential group became more professional in their attitudes than the non-residential students with the difference significant at the .01 level of confidence. The residency instrument determined that the residential group spent more time studying outside class than did the non-residential group and this was significant at the .10 and .05 levels of confidence. That the residential group members usually studied with others was significant at the .001 level of confidence. The groups were also asked about the time they spent studying outside class, and this was the only item where the differences between residential and non-residential groups were not significant.

LaCognata (40) found that in almost every instance the performance of the residential students was superior to that of the non-residential
students. The class conducted in a residential setting seemed to result in more learning for the participant than did the class conducted in the non-residential setting. It would seem that the added dimension of residence living allows the student greater contact with the instructor and with other students thus reinforcing the learning acquired in the class. Perhaps residence living produces greater motivation through the sense of camaraderie which is developed among class members.

Summary and Conclusions

As the class is a method in which the principal objective is the dissemination of a specific body of knowledge by an expert to a group of learners almost all interaction is from instructor to student and very little opportunity exists for inter-student communication. There are indications from the liberal arts research that the traditional format of the class is not satisfactory for a significant proportion of participants who would have preferred a combination of lecture and group discussion techniques within the class to the lecture by itself.

In almost every area of learning it was found that the class was as effective as the discussion group. In attitude and conceptual learning no perceptible differences between the class and the discussion group were evident. In terms of certain behavioural changes, such as reading habits, community involvement and organizational membership no differences were discovered between the class and discussion group participants. It was found, however, that discussion group participants made more friends
from their groups than did class members.

Studies in the liberal arts found that the class tended to have more members in the professional and managerial categories than discussion groups whereas discussion groups had more members in the sales and clerical positions. No conclusive results were obtained about the differences between the class and the discussion group in the areas of age, sex, marital status and education. The results of studies using American populations differed from those using Canadian. The Canadian study found more women than men, fewer married, and fewer younger people in the class, whereas the American results were opposite.

In the liberal arts classes there were significantly fewer drop-outs because of social pressures than in discussion groups. Those persons whose attitudes were outside the norms of their groups left the discussion groups in significantly greater numbers than did those in classes. It would seem that the "attitudinal deviant" can keep his opinions to himself in the class whereas it is not so easy in discussion groups. Perhaps the class offers a protective environment in which attitude change may occur unobtrusively. In one study on parent education, it was found that certain attitude and conceptual changes did occur, some of a significant nature. This study did not test actual behavioural change nor the long term effects of such change, but it might be asked whether the class would be as effective in producing lasting behaviour changes as would the workshop, for instance, where provision is made for greater learner participation.
The residential class was found to be superior to the non-residential class in tests for attitude change, acquisition of knowledge and behavioural change. The hypothesis that the residential setting gives the student greater opportunity for interaction with the instructor and with other students was supported. Residency seems to have added another dimension to the class which increases opportunity for learning.

The research on evening classes did not discover any evidence to conclude that evening classes are inferior to day classes in achievement, nor was there any conclusive proof that evening class students were less capable intellectually than day students.

It would seem that the strength of the class lies in the area of conceptual learning. It is doubtful whether the class is as effective in applied learning as methods which provide greater opportunities for student participation.

IV. CORRESPONDENCE STUDY

Introduction and Description

According to the research examined, Bradt (10), Fairing and Hughes (23), Hughes (34), Larson (42), Montross (49), Sorenson (58) and Stein (59), correspondence study is a method in which all communication between the learner and the agent is by the written word. A certain number of study assignments comprise the "course." The ways in which this written communication was handled by the agent determined the techniques used to
facilitate the learning, however, no description was given in the studies of the various techniques used.

Research about correspondence study does not indicate the general learning goal of the method, however, we can surmise that the goal is cognitive learning rather than affective or manipulative learning. The information to be learned is necessarily unrelated to social behaviour because the learning is completely removed from social contact. The contact between agent and learner is not personal, and, therefore, the student must relate only to the intellectual content of the material being learned. This requires that the student be highly motivated and emotionally detached. In other words, only a certain kind of student and certain kinds of learning goals are attainable within the limitations of this method. Adult educators have been concerned with the high numbers of dropouts which seem to occur in correspondence study so several studies have attempted to isolate the factors responsible for these dropouts. Bradt (10) found that students enrolled for: general interest - 37 per cent; gaining a diploma - 32 per cent, and furthering their careers - 23 per cent. Hughes' (34) categories were similar, however he narrowed the field to the following: interest in teacher certification; gaining college credit; professional-vocational improvement, and gaining insurance credentials. In view of the high dropout rates some of the needs expressed by the participants might have been met better by learning through another method.
Research Designs

The population of the Bradt (10) study consisted of one thousand students who would resemble as closely as possible that group to which a follow-up program would be addressed. Included were all correspondence students who had been inactive from three to six months and all self-teaching students who had not applied for their end-of-course test five to twelve months after enrolment. They were divided into five groups as follows: 1) no lessons, 2) one lesson, 3) two or three lessons, 4) four or more lessons, 5) a self-teaching group. A twenty-item questionnaire of the free and check response type was sent to a ten per cent sample of the population. Some of the items were concerned with reasons for enrolling in the course, interest in obtaining credit, plans for completing the course and assessment of learning achieved. There was a 58 per cent response to the questionnaire. The data collected were not subjected to any tests for significant differences but were listed instead in percentages under categories. Ninety-one per cent of the responses fell into the three categories of general interest, school-related and career-related. The median age of the sample was twenty-two years and from one-third to one-quarter of them had some college education. More than two-thirds of the sample indicated that they did not intend to make a career out of the service. Three-quarters of them had not previously enrolled in USAFI courses.

The population of the Fairing and Hughes (23) study consisted of
380 former registrants in university correspondence courses who had failed to complete their work during the past two years. The criteria for selection stipulated that no student who had enrolled prior to January 1, 1945, would be eligible, that only armed forces students would be used, and that only those who had submitted one or more assignments would be used. A sample of fifty was selected at random from the population for trial purposes, the object of which was to discover whether a free choice or forced choice response questionnaire would be best. On the basis of the trial run, the remaining 330 in the population received a free response questionnaire. The data which were collected from this questionnaire were not subjected to any tests of significance and the data were analyzed by percentages.

The population in the Hughes (34) study consisted of 581 persons who had enrolled for college work during the months of February, March, April and August of 1953. The criterion for selection stipulated that the students must have submitted at least one assignment and the questionnaire was sent to 441 registrants of whom sixty-three per cent returned the form. The chi square test was used to determine significance.

The sample in the Larson (42) study consisted of fifty-six students who earned an average number of twenty-six residence and ten correspondence credits at the University of Arizona. The grades earned in residence were assigned by university instructors whereas those earned in correspondence study were given by "readers", perhaps graduate students. The grades were analyzed statistically by the Pearson Product Moment
The Montross (49) study selected a sample at random from the university extension division's registrations between June 1, 1953 and February 4, 1954. Two groups of forty-four students each were selected. One group received regular correspondence study instruction, while the other group received correspondence study instruction plus field assistance which consisted of two visits to the students' homes by a university representative during which students were given some assistance in locating library facilities, in straightening out course credits and in planning future correspondence study. No coaching was given by the field representatives during these sessions.

The correspondence and field assistance groups were given a three-part attitude test after their courses which consisted of a test "m" which was concerned with the correspondence method, a test "c" which included questions about the courses taken and a test "a" which included questions about field assistance. The data were analyzed by the "t" test for significance and differences at the .04, .05 and .10 levels of confidence.

In the Sorenson (58) study the IQ and achievement correlations of twenty evening class students were compared with thirty-five correspondence students all of whom were taking a course in Educational Psychology during the same period of time. The two groups were given the Otis Self-administering test to determine aptitude (IQ). A regular university examination was used to measure achievement in educational psychology. The findings were analyzed by the Pearson-Product Moment Correlation test.
In the Stein (59) study, the population consisted of one hundred women employees of a telephone company who had slight union experience and a median service as stewards in the union of one and one-half years. They had a median education of eleven years and they were all from working class families. The course was eight lessons in length, and after the last lesson the students were sent an evaluation form which queried them about their reasons for enrolling in the course and how they felt about it.

**Findings**

**Effects of the Learning.** There are very few studies available which test the learning accomplished within the correspondence method using adults as subjects. Larson (42) conducted a study which measured and compared the achievement scores of correspondence students on university examinations versus their grades previously gained in residence classes. The findings revealed that 72 per cent of the students received higher grades in their correspondence work. The coefficient of correlation was .576–.06. The author maintained that these results needed to be qualified for four reasons:

1. Ten versus twenty-six credits is too unequal a comparison in order to judge the effectiveness of one method over another.
2. The correspondence students may have picked their best subjects.
3. There may have been grading differences between the residence and correspondence courses.
4. The correspondence study failures were not recorded.

The second study, performed by Sorenson (58) compared the aptitude and achievement correlations of a group of evening class students with a group of correspondence students. The author found that the achievement aptitude correlation of .73, which the evening class received, was higher than the same correlation of the correspondence group which was .61. The author concluded that the evening class students worked closer to their ability than did the correspondence students. He maintained that these results needed to be qualified because the correspondence students were not able to take their aptitude and achievement tests under the same favorable conditions as the evening class students and, in view of this, the difference between the correlations seemed slight.

In both these studies, the students were probably working towards university degrees and highly motivated to do well; therefore, the favorable results on their correspondence courses. The courses taken were highly informative and, as such, were suited to the method.

Although the Stein (59) experiment was an exploratory one which did not test learning, it is interesting because it attempts to experiment with correspondence as a method in which information could be given to learning in the hope that this material could then be applied to a real-life situation. The object of this study was to test correspondence study as a feasible method of education in a program of in-service training for union officers. The course was designed to inform participants of the principles of democratic leadership, the operation of labor
unions and the problems of their own organization. Instead of objec-
tively testing the knowledge gained and applied to real-life situations,
Stein collected testimonial evidence from participants by means of a
questionnaire. They were asked why they enrolled in the course and how
they felt about it. Replies to the first question were: to learn more -
fourteen responses; to be a better steward - six; to improve my local -
six; to be able to handle different problems - three.

These responses indicate that the participants were primarily
interested in problem solving and in improving their abilities as union
officers. Replies to the second question indicated that of the large
numbers who finished the course, eleven out of twenty-two gave negative
responses: waste of time - one; interesting but did not learn much -
three; learned but not interesting - three; learned but will not help
job - four. Replies from the remaining eleven were: interesting and
informative - nine; learned much and will help job - eleven.

Combining the unfavorable responses with the large numbers of
dropouts (approximately 75 per cent), one wonders how successful this
kind of environment was in helping union officers to apply this theor-
etical knowledge about their unions to real-life union responsibilities.
However, Stein thought that correspondence study would be a successful
means of providing in-service training to union personnel if: motivation
was stimulated; the writing exercises were improved; materials were
adapted and modified so that they could be more useful.

This study certainly indicated that it would be helpful if this
kind of learning (to apply knowledge) were tested against pure information learning in future experiments to assess which is best accomplished by correspondence study.

Participants. Bradt (10) questioned a group of selected USAFI students about why they dropped out of courses before completion. The reasons given were: lack of time - 41 per cent; changed intentions - 23 per cent; problems with the mechanics of studying and in completing lessons - 19 per cent; and problems with the course itself (too hard or too easy) - 17 per cent.

Fairing and Hughes (23) also examined the problem of dropouts with a group of former university students who had taken correspondence courses. They cited as reasons for failing to complete their courses: time limitations - 48 per cent; change of plans and course unsatisfactory - 24 per cent; and unable to finish because of illness - 16 per cent.

Both Bradt (10) and Fairing and Hughes (23) found similar reasons for the dropout problem; they discovered lack of time and changed intentions cited most frequently as reasons for dropping out. They also discovered that another important reason given for dropping out was that the course was unsatisfactory. They both concluded that counselling might be a necessary part of the program if student dropout was to be reduced.

While the above studies used the free-response questionnaire technique in the collection of their data, the Fairing-Hughes (23) study also circulated an informational forced-choice type of inventory which
gave some knowledge of previous college experience, previous experience with the correspondence method and length of time which the students gave themselves to meet a deadline. Correlations were calculated between these three factors and course completions. It was found that all three were significantly related to course completion at the .01 level of confidence. The more college work taken, the greater the experience with the correspondence method and the shorter the deadline period, the greater the number of course completions.

One means of alleviating the problem of dropouts may be the use of field assistance which is the counselling help given to students in their own vicinity, perhaps in their own homes, by university personnel. The object of field assistance is not to counsel students about their academic work (i.e., to provide tutoring), but to help the student sort out courses and credit, locate library facilities, and similar problems.

Montross (49) investigated the effect of adding field assistance to the regular correspondence format with two groups of students selected at random. The results indicated that the field assistance group showed significantly different attitudes towards the correspondence method than did the control group at the .05 level of confidence. In general, the field assistance group accepted correspondence study to a greater extent and handed in significantly more assignments than did the control group. The addition of field assistance to regular correspondence study program helped to reduce the number of dropouts and create in students a more positive attitude towards the method of correspondence study itself.
Summary and Conclusions

More work needs to be done on correspondence study in order to identify the kinds of learning best suited to such isolated study. Also, more research similar to that in the Montross (48) study should be done on the effects of modifying the method. To learn under correspondence study participants must be highly motivated. Such participant motivation can be stimulated and sustained by the addition of field assistance. Those who have had previous correspondence study or college experience do best.

V. DIRECTED INDIVIDUAL STUDY

Introduction and Description

Verner has defined Directed Individual Study as a relationship which is "established with the learner that involves some direct personal contact between the learner and the agent so that personal supervision of the learning process is assured". (62:p.14). Research on methods conforming to this definition was found in the fields of health education, childhood education and agricultural extension. Although these methods are similar in form they have been identified under different names including the clinic interview (health education), the individual conference (childhood education) and personal contact methods (agricultural extension). Because each of these has been studied in different fields
they will be discussed separately, and the method will be described by analysis from the studies. The most detailed studies relating to Directed Individual Study are those from agriculture.

There are two studies in which the techniques employed within the clinic interview have been used as a standard in which to test the effectiveness of the decision technique in discussion groups in the adoption of new practices. Neither Radke and Klisurich (51) nor Bowser et al (9) defined the interview, however, information was extracted from the studies about the process. In both experiments the aim of the clinic interview was to give "instruction" to the learner by the expert – the nutritionist – so that the emphasis would be on providing information to change certain behaviour. The Radke and Klisurich study indicated that the interview was from fifteen to twenty minutes in duration and that the women were given a printed schedule to read before the interview took place.

In childhood education this method has been called a conference and used as a means of communication between parents and teachers and between teachers and their supervisors as studied and described by Kitchens (38) and Kniseley (39) respectively. In the parent-teacher conference the process was not defined by Kitchens, however, from his report some details have been gathered which permit a description of it.

A structured parent-teacher conference was compared to an unstructured one in the Kitchens (38) study. He stated that although the object of these conferences was to gain more understanding of school and child
for both parents and teachers information imparted to parents in the structured conference was pre-planned; the teacher had definite information he or she wanted to give to the parents. The unstructured conference was client-centered; whatever information was shared between parents and teachers was spontaneous, and no pre-planning or structuring of the information was done by the teacher before the conference. Obviously the approach used in these two types of conferences differed, but the aims of both were to obtain knowledge about people so that attitudes would change.

The conference tested in the Kniseley (39) experiment was called an individual teacher-supervisory conference. The author stated that it was client-centered; the teacher brought up problems regarding child and school but not according to any preconceived plan. The only session structured by the supervisor was the first, where the aims and objectives of such conferences were explained to the teacher, after which the conference consisted of free flowing discussions between teacher and supervisor.

All of these conferences may be labelled as counselling situations but it would seem from these two studies that the "conference" as they describe it is a two-person confrontation, with one person acting as agent and the other as learner, with the object being attitude change for the learner.

It is impossible to give a more complete description of the conference because of the lack of research on it.
A large number of studies have been made on the effectiveness of the individual contact method versus other methods such as group contact and mass media methods as defined in the Agricultural Extension Service.

Wilson and Gallup (66) stated that it was the responsibility of the agricultural agent when using individual contact methods, such as farm and home visits and telephone calls, to make contact with those who do not participate in extension activities, to introduce changes in practices which are complex and to increase the confidence of the participants.

Directed Individual Study, as used in the fields of health education, agricultural extension, and in-service teacher training is generally employed in an effort to bring about attitude and/or behavioural change and the adoption of new practices.

The studies on the clinic interview, the parent-teacher and the teacher-supervisor conferences all evaluate the effects of the overall learning acquired during the experimental period. The agricultural extension studies evaluated the learning acquired in individual contact versus mass media methods, however, according to Verner's (62:p.10) conceptual scheme, mass media are not really methods for adult education.

The research designs will be discussed at the beginning of the reports on the clinic interview, the conference and the individual contact methods. The findings of these studies then are divided into (1) Effects of the Learning and (2) Participants.
Research Designs of Clinic Interviews

The dietetic interview sample in the Bowser et al (9) study consisted of seventy-eight patients who were selected at random from the In-Clinic of Peter Brent Brigham Hospital in Boston. The group-therapy patients consisted of eighty-seven women and eight men who had participated in the Boston Pilot Survey Project; the authors did not indicate how this sample was selected.

The control sample consisting of thirty-eight women and four men who were in the one year follow-up group and forty-four women and four men who were in the two year follow-up group, was selected at random from the population of obese persons who had attended one of the health protection clinics in the Boston area.

It would appear that the first test groups were involved in treatment for two years, although the length of time was not clearly specified. Height and weight data were collected from all three groups at the end of one year and again at the end of two years. These data were analyzed for critical ratios with the level of confidence used to determine significance unspecified.

In the Radke and Klisurich (51) experiment the whole population (no number given) of mothers in a maternity ward were tested. They were divided into a dietetic interview sample and a discussion sample, on the basis of the number of children, kind of infant with feeding prescribed by doctor and whether they were from farms or small towns in Iowa.
The data for the dietetic interview and the discussion groups were collected by personal interview at intervals of two and four weeks after treatment. The resulting data about the infants' feeding schedule were subjected to the chi square test at the .10, .05, .02 and .01 levels of confidence.

Findings on Clinic Interviews

Effects of the Learning. Both Radke and Klisurich (51) and Bowser et al. (9) tested the learning which took place within the clinic interview versus that resulting from discussion groups. The techniques within the clinic interview were used as a standard with which to test the decision technique in discussion groups in the adoption of new practices. No description was given of techniques used in the interview so we can only surmise that the emphasis was on instruction.

The new practice desired in the Bowser et al. (9) study was the adoption of new dietary habits for obese patients. The new dietary practices were to result in loss of weight for the patients.

Bowser et al. (9) found that there were no significant differences between the two test groups using interview and group therapy, and the control group. The critical ratio of greater than or equal to 2.0 was significant.
No measurable differences were found to exist between the two methods.

Radke and Klisurich (51) tested a group of new mothers, half of whom were enrolled in a discussion group while the other half participated in the clinic interview. The main object of the interview was to test the effectiveness of the learning accomplished within the discussion groups versus that which occurred within the clinic interview. They found that the data collected two weeks after the experiment favored the discussion group at the .02 level and after four weeks the discussion group was significantly better than the interview group at the .01 level.

It is impossible to generalize about the learning which can take place within the setting of a clinic interview until more research is done on the type of learning goal best achieved through the interview. Perhaps there are tasks for which the interview is eminently suited, but at the present moment all that can be said is that the interview was not as effective as the discussion group in decision making in this situation.

**Research Designs of Individual Conferences**

Kitchen's (38) sample (no number given) was selected at random from a population (no figures given) of parents from two schools that were similar with respect to socio-economic status. The sample was

<table>
<thead>
<tr>
<th>Method</th>
<th>1 Year</th>
<th>2 Years</th>
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<tbody>
<tr>
<td>Individual instruction</td>
<td>-6.13</td>
<td>-1.58</td>
</tr>
<tr>
<td>Group therapy</td>
<td>-5.27</td>
<td>-3.95</td>
</tr>
<tr>
<td>Control</td>
<td>-4.57</td>
<td>-2.92</td>
</tr>
</tbody>
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divided at random into a test group and a control group with representation from each school. The test group participated in the experimental individual conference experience which was highly directed, and the control group participated in individual conferences on a very casual basis prior to the experiment. The two groups participated in one conference only and were given a questionnaire which was designed to test their attitudes toward the teachers and the school. The data were subjected to the chi square test but no level of confidence was indicated.

Two groups (one experimental and one control) composed of twenty-five teachers each were tested in the Kniseley (39) study. These two groups were chosen at random from the faculty rosters of eight secondary schools in Amarillo, Texas. The individual conferences lasted one hour. The teacher's attitudes were tested before and after the experiment by the Minnesota Teacher Attitude Inventory. This instrument was intended to give an indication of the type of pupil-teacher relationships which the teacher considered desirable and which he sought to maintain and it ranked teachers in terms of social maturity. The data were subjected to the "t" test and evaluated at the .10, .05, and .01 levels of confidence.

Findings on Individual Conferences

Effects of the Learning. In both Kitchens (38) and Kniseley (39) the individual conference was used so that the learner was counselled by either direct or indirect means to induce changes in attitude. Kitchens tested two groups of parents before and after participating in a struc-
tured (test group) and an unstructured (control group) parent-teacher conference. The parents who had participated in the structured individual conferences exhibited a more favorable change in attitudes than did the unstructured group, however, the attitude change was not significant in both cases, although in the case of six of the attitudes towards teachers which were measured a significant difference was found.

The object of the Khiseley (39) study was to test whether the individual conference brought about attitude changes so that the teacher would become more effective in the classroom. The discussions between teachers and supervisor focussed on the following subject areas: problem of building relationships, examination of attitudes, teacher experimentation, and problem solving. The criterion of effectiveness by which the teacher conference was measured was the attitude change which occurred after a series of eight individual conferences. Khiseley found that there were no significant differences between the groups at any level of confidence. He did find that ten of the members of the experimental group had increments in score as compared to five of the control group. He also found that the mean scores of the control group tended toward the negative (differed significantly from 0) in the levels of significance of .10, .05 and .01, whereas the experimental group did not differ significantly from 0. The change which occurred in the experimental group however, was not large enough to be considered significant.

No conclusive evidence is available on the individual conference method through which attitudes can be changed significantly. More
research is needed with respect to the length of time required, the number of individual conferences used and in identifying the differences in group counselling sessions versus individual conferences in effecting attitude.

Research Designs of Individual Contact

The Abell and Larson (1) sample consisted of 1,439 homemakers in four rural areas in New York State of whom 596 were chosen as a control group, and another group of 186 were matched with them. The rest of the sample, two groups of 485 and 172, were chosen at random. The first groups were interviewed during 1947 and the other in 1948. The data were not subjected to any tests for significance, but were analyzed in percentages.

In the Abell, Larson and Dickerson (2) study the sample consisted of 278 male farm operators who had commercial farming as a main or secondary occupation. They were questioned about their preference for media from which they received agricultural information. The data were not subjected to any tests for significance but tabulated using percentages.

The sample in the Aurbach and Kaufman (5) study consisted of 139 farmers in Alcorn County, Mississippi, and were selected in terms of the following criteria: (1) made their own decisions regarding the farm organization, (2) owned their own work power, (3) lived on their present farm during the previous crop year, (4) had five acres or more
of crop land and (5) had worked on the farm at least one-third of the time in the previous year.

The Beal and Rogers' (6) sample consisted of 148 farm operators in Central Iowa. The area from which they were chosen was prosperous and highly commercial. The data for the study were collected by personal interview and analyzed for statistical differences by the chi square test.

In the Johnson and Wilkening (35) study 636 farm operators were chosen by the use of the following criteria: (1) married and living with his wife, (2) under forty-five years of age, (3) started farming within ten years prior to the survey and (4) at least one-half of his income in the preceding year was from farming. In addition, two control groups consisting of 200 families were selected with the first group chosen from six counties within the project and the second chosen from counties outside the project.

In the Lionberger (44) study the sample consisted of 279 farm operators from a north-eastern Missouri farming community. They were divided into three groups: (1) those who obtained farm information from county agents during the year preceding the interview irrespective of other sources; (2) those who used some institutionalized sources of information other than a county agent during that period; and (3) those who used no institutionalized sources of farm information.

Marsh and Coleman's (46) sample consisted of 393 farmers in Washington County, Kentucky.
Using a list of rice growers in the parish as a base, Robert (54) drew the names of seven farmers who were asked to set up neighbourhood meetings to discuss the hazard of a particular rice disease. These farmers were asked to check their fields for evidence of the disease. Next, Robert drew a sample of farmers to whom he made personal visits, and finally he sent circulars to a third sample to whom the same problem was outlined. Each farmer in the study received a copy of a leaflet which outlined the disease. The samples were interviewed personally several weeks later. The analysis was based on replies from twenty-three who received the letter, forty who were visited at their farms and thirty-four who attended neighbourhood meetings. Findings were given descriptively and in percentages.

The sample in the Wilkening (65) study consisted of 171 farm operators who were selected at random from the North Carolina Counties of Harnett, Nash and Wayne. A 10 per cent sample was taken in Harnett and a 5 per cent sample in Nash and Wayne. The data were collected by individual interview.

Findings on Individual Contact

Effects of the Learning. In all of these studies, the adoption of a new practice was the learning objective. In some studies, adoption was considered to be a single act but in others it was considered to be a process consisting of several stages.

Beal and Rogers (6) maintain that an individual must pass through
five stages before a practice is adopted. These five stages are:

1. **Awareness** - at this stage the individual is initially exposed to the idea.

2. **Information** - after the person has been exposed to the idea, he attempts to obtain information about it.

3. **Application** - the individual makes the decision to try or not to try the practice.

4. **Trial** - after the decision to try out the idea has been made the individual experiments with the techniques of accomplishing the practice.

5. **Adoption** - when the trial has been made and the individual is satisfied with the new practice he decides to continue using it.

The results of certain studies can be better understood with these stages in mind. These studies have contrasted the effectiveness of three agricultural methods; individual contact, group contact and mass media as sources of information about new practices. In other words, through which method did the farmer or homemaker first obtain information about certain new practices?

Johnson and Wilkening (35) found, after interviewing early and late participators in a program of farm and home development, that the two participating groups had higher adoption rates than did the two control groups during the period of five years that the program was in existence. The greatest changes occurred in the practice of keeping farm record books and in the use of milk production records. In these
two practices, adoptions of the participating groups were significantly
greater (levels not given) than those of the control group. In addition
to the adoption of new practices, changes of an economic nature could
be attributed to the program, however, these changes were not significant.

Robert (54) reported after interviewing the farmers that all three
methods being tested (group meeting, farm visit, circular letter) appeared
to influence the rice growers, however, the visits and the meetings
seemed to result in more action than did the circular letter. The
meeting seemed to motivate more action than did the visit. These results
were not tested for significance however, and the author simply stated
that one method produced better results than another.

While the Johnson and Wilkening (35) and Robert (54) studies
tested after adoption had taken place, certain others have studied the
effects of various methods on learning while the process of adoption was
on-going.

The homemakers in the Abell and Larson (1) study listed as helpful
sources of information: (1) magazines; radio, neighbors, farm papers;
(2) meetings; (3) teachers; (4) talks with home demonstration agents;
(5) home visits; (6) office visits. The homemakers then listed as most
helpful sources:

Magazines - 38 per cent
Neighbors - 19 per cent and
Radio - 15 per cent.

Abell, Larson and Dickerson (2) found that their sample of farm
operators mentioned that farm papers (82 per cent), printed extension (87 per cent), radio (69 per cent), neighbors, friends and relatives (64 per cent), talks with the extension agent (46 per cent), meetings and demonstrations (49 per cent), and oral extension (64 per cent) were helpful.

The sample listed farm papers (28 per cent), printed extension (37 per cent), oral extension (33 per cent), meetings and demonstrations (21 per cent) and talks with the agent (17 per cent) were most helpful. In both categories of "helpful" and "most helpful" the mass media are mentioned most frequently with group contact next and individual contacts such as agent talks and oral extension last.

The Aurbach and Kaufman (5) study was concerned with the extent of farmer's knowledge of agricultural practices and their major sources of information. They found that the farmers identified the most helpful sources as: County agent (42 per cent), the county co-operative (31 per cent), and neighbors (29 per cent). The county agent was the most helpful source of information in this study, whereas in the Abell and Larson (1) and the Abell, Larson and Dickerson (2) studies contacts with the county agent came last among the most helpful sources of information.

The studies cited above have been concerned with the effectiveness of the agricultural methods as information sources about new practices. The Beal and Rogers (6) study has related the effectiveness of agricultural methods to all stages in the adoption process; awareness, information, application, trial and adoption. They found that at the
awareness stage that mass media were most important. Individual and group extension methods were also effective at this stage. At the information stage all sources were equal in importance, i.e., mass media; agency sources; informal sources and commercial; at the application stage, informal and commercial sources were most important and at the trial stage, commercial sources were most important. The criterion of success at the adoption stage in the process was the farmer's sense of satisfaction. General trends in the data indicated that agency sources decreased in importance as disseminators of information and informal and commercial sources increased from awareness to adoption. In the initial stages of the adoption, the adult education methods were at the height of their effectiveness, however, because Beal and Rogers classified individual and group contact methods together it is difficult to say which of the two was the most effective, although there is some evidence from the Abell and Larson (1) and Abell, Larson and Dickerson (2) studies that group contact methods are more effective than individual contact methods in influencing the adoption of practices. The Wilson and Gallup (66) review corroborates this, for they reported that in every eighty-one of one hundred adoptions, 24.8 per cent were credited to individual contact methods with 32.8 per cent to group contact methods and 23.3 per cent to mass media and 19 per cent to indirect influences. Wilson and Gallup also found that the accumulated influence of several methods was usually necessary to accomplish a desired change in practice. Correlation studies showed that the total number of practices adopted as a result of
extension teaching was more closely associated with certain methods than others. The coefficient of correlation of the individual contact methods, i.e. office calls, was \(0.656 \pm 0.075\) and the group contact methods, demonstration meetings and general meetings were \(0.605 \pm 0.095\) and \(0.368 \pm 0.130\) respectively. Indirect influences at \(0.814 \pm 0.044\) and news stories with a correlation coefficient of \(0.738 \pm 0.060\) were the highest. It would seem from these correlation studies that the kind of meeting determines how much adoption takes place.

Certainly if one is to generalize it would seem that individual contact methods and group contact methods are close together in the contest for number of adoptions.

Participants. Several studies were concerned with the factors which identify the characteristics of the participants using individual contact methods. The factors studied were: age, education, socio-economic status and the amount or quality of the contact which the participants had with the method.

Age. Lionberger (44) compared users of county agents (users of individual contact methods) with the users of other institutionalized sources of information (vocational, agricultural, etc.), and with the non-users of any institutionalized sources of information. He found that the users of county agents were younger and that the non-users were the oldest in the sample. He also found that the users of county agents were the highest adopters of practices, with the users of other sources next,
and the non-users last.

Beal and Rogers (6) correlated age with adoption rate. They found that the innovators were significantly older than all other adopters at the .05 level of confidence. Wilkening (65) also found that the age of the farm operator was associated with the adoption rate.

One study said that the users of individual contact methods were younger and higher adopters than the users of other media. Another said that the users of extension agencies, including individual contact methods, were older and higher adopters than the non-users of other media. Another study said that age was not a factor in extension teaching and in the adoption of practices. Obviously, there is no clear cut agreement about the effect of age on the use of individual contact methods.

**Education.** In every case the authors agreed that education was a significant factor in the success of all extension methods. Abell and Larson (1) and Abell, Larson and Dickerson (2) discovered that high users of information (individual contact methods along with other sources) were more highly educated than the low users of information. High users of information listed as their most helpful source of information the mass media and the extension methods.

Lionberger's (44) users of county agents had eleven years of education compared to nine years for the users of other institutional sources and the non-users of any source. Marsh and Coleman (46) found that the better educated the farmer the more likely he was to adopt and
to use all channels of information. The less educated he was the more likely he was to consider the informal sources of information such as friends and neighbors as the most helpful. They also mention that the higher the education of the farmers the greater their use of agency representatives.

Only Lionberger (44) specifically examined the effect of education on the users of individual contact methods versus the users of other media. He found that the users of individual contact methods had more education than non-users. The consensus of opinion seems to be that education and the use of personal contact methods and extension sources in general had a definite bearing on the adoption rate.

Socio-economic Status. The authors all agreed that socio-economic status was related to a high usage of individual contact methods and to the high use of other media and to the rate of adoption of practices.

Abell and Larson (1) and Abell, Larson and Dickerson (2) found that the high users of media had a higher socio-economic status than the low users of media. Lionberger (44), in comparing the users of county agents with users of other institutional sources of information and the non-users of any informational source discovered that the Sewell socio-economic score of the users of county agents did not differ sufficiently to say that one group was superior to the other.

The majority of the studies agreed that a high use of extension
media in general was related to a high socio-economic status. The one study which was concerned with the users of individual contact methods alone did not arrive at any definite conclusions regarding the difference in socio-economic status of the users of individual contact methods versus other users.

Marsh and Coleman (46) related the size of farm operation with the use of channels of information, and they found that the larger the operation the more channels of information were used, and the greater the use of individual contact methods and of meetings and bulletins.

Lionberger (44) found that both the users of county agents and the users of other institutional sources of information had larger acreage than the non-users of any institutional source of information. Regarding tenure, Lionberger found that the users of county agents had been farming eighteen years, the users of other institutional sources had farmed for twenty-two years, and the non-users of any source had farmed for thirty-two years.

Beal and Rogers (6) correlated size of the farm with adopter categories and found that there were no significant differences between the innovator to laggard types at the .01 and .05 levels of confidence. Size of farm was found to be related to a greater usage of individual contact methods by three authors; however, one study found that the innovators who were also the greatest users of agency sources did not have larger farms than other adopters.

Abell and Larson (1) and Abell, Larson and Dickerson (2) investi-
gated tenure and found that high users of media spent a longer time on
the farm than did low users. The two studies investigating tenure
arrived at conflicting conclusions. One discovered that users of county
agents had been farming a shorter time than other users and non-users,
and the other study found that the high users of media had spent a longer
time farming than low users of media.

**Individual Contact with the Agency Representative.** Johnson
and Wilkening (35) measured the nature of the contact which the extension
staff had with the participators and non-participators in the farm and
home development program in Wisconsin. The contact with extension staff
was measured by one or more telephone conversations; one or more farm
visits by an agent; attendance at one or more extension sponsored
meetings, and by attendance at one or more extension sponsored demon­
strations. The first two types are individual contacts whereas both the
third and fourth are examples of group methods. Johnson and Wilkening
found that both the early and late participators had more contact with
extension agents than did the control groups. They also found that the
wives of the early and late participators had more contact with home
demonstration agents than did the wives in the control groups.

Beal and Rogers (6) calculated the extension individual contact
score for all their adopters, and found that there were significant
differences between them at the .01 level of confidence. The innovators
had the most contact with extension agents and laggards the least. There
was a significant relationship demonstrated in this study between the amount of individual contact and the adoption rates of the sample. Marsh and Coleman (46) discovered that farmers who talked most frequently to agency representatives adopted recommended farm practices at a higher rate than those farmers who did not talk as frequently to agency representatives. Lionberger (44) said that the users of county agents were greater adopters than users of other institutional sources of information and non-users of any informational source. Beal and Rogers (6) found that fastest adopters had most contact with extension agents and the slowest the least.

The above studies all agreed that the amount of contact which the farmer or homemaker had with the agency or the individual representative affected the speed of adoption or the use of media in general.

Summary and Conclusions

Directed individual study, whether used in health education, teacher in-service-training or in agricultural extension, seems to be a process in which the agent and the learner in face to face contact are interested in solving some problem or in finding information which may help to modify that person's behaviour or attitudes.

In health education, the clinic interview was found to be inferior to discussion groups in bringing about the adoption of new dietary practices.
In teacher in-service-training, the attitude changes effected by
the conference were not striking. The techniques used within the struc-
tured conference versus the unstructured one seem to have brought about
greater change, but the change was not significant. Again it would be
helpful if the individual conference was compared to a group counselling
method. The actual efficacy in learning and the unique aspects of the
conference are yet to be discovered.

The agricultural studies have more information on the effective-
ness of individual contact methods. These methods certainly effect
adoption but in the adoption process, individual contact methods along
with group contact methods were found to be most effective at the early
stages in the adoption process. Of course, individual and group contact
methods still are secondary to the mass media and informal sources at all
stages in the adoption process.

The user of individual contact methods tends to be of higher
socio-economic status, have more education, use all media more and to be
the fastest person to adopt practices.

VI. DISCUSSION GROUP

Introduction and Description

Just as the class is associated with traditional learning, the
discussion group now is associated with the newer trends in education and
as such constitutes one of the main methods used in non-credit adult
education. In this era, particularly since the Second World War, adults have been demanding a greater role in the learning process as they no longer want just to be taught but want to be involved in learning. The democratic atmosphere created by discussion is admirably suited to this.

All of the studies reviewed including those by Bond (8), Buttedahl (12), Carroll (13), Davis (18), Hadlock (29), Hill (33), Kaplan (36), and Shapiro (56) show that discussion groups have certain characteristics in common including such factors as group interaction, leadership, and the role of authority. In discussing the role of leadership Shapiro noted that it should be non-directive. The leader's job is to facilitate and establish a comfortable climate for discussion rather than to dominate it. Kaplan as well as Davis and Hill noted that discussion leaders are not information specialists but lay leaders with the ability to relate to people. Carroll and the Fund for Adult Education authors, Davis, Hill and Kaplan, stated that the participants received their information from books and records or tape recordings rather than from information specialists. The group is not dominated by a subject matter authority but is itself responsible for its own learning. Verner's definition seems to contain these elements for he says that discussion groups provide:

> a learning situation which conforms to the characteristics of the societal processes of a group so that learning is achieved in the group as a unit as well as by individual members. The responsibility for learning is shared by the group members and the agent. The duration of the activity will vary with the purpose of the group. (62: p.15)

The characteristics of the social environment mentioned in this
definition is one of the main topics covered in the research. A discussion group, by its very nature, provides an environment which is suited to the accomplishment of certain learning tasks and involves the entire membership of the group in interaction. Some critics have suggested that this results in a "pooling of ignorance"; discussion adherents are particularly anxious to disprove this contention. This kind of criticism has resulted in studies comparing discussion groups and the class in the areas of information, attitude and skill learning.

A great deal of the work which has been done on discussion is not usable here because it has examined group discussion techniques and not the methods. The studies which pertain to method come largely from the liberal arts, health education and parent education while those relating to group discussion have been conducted in the setting of the class. The findings of the studies from each particular field are treated separately.

Research Designs

The Bond (8) sample consisted of forty-two discussion-decision groups and thirty-three lecture groups which were selected from matched middle class communities. The groups were small pre-existing women's groups which were not organized around any health subject. The study sample of 871 women was roughly comparable in age, formal schooling and occupational status to the female population of Duluth, Minnesota. One meeting was held by the investigator in each study group. Two follow-ups were made, one six months later and the final one thirteen months later. The data were collected by the following instruments: (1) a
questionnaire for officers of groups; (2) a pre-meeting questionnaire which covered (a) a general description and (b) information on how recently they had had a breast examination; (3) a post-meeting sheet which was used only by the discussion group; (4) a cohesiveness and responsiveness sheet; (5) a follow-up interview which contained information about the practice of self-examination. The data collected were analyzed by the chi square test at the .01 and .05 levels of confidence.

The population of the Buttedahl (12) study consisted of 272 adults in seven classes, and 173 adults in thirteen discussion groups. They were selected from the 1961 fall program of the University of British Columbia extension department on the basis of similarities in subject matter, fee structure, starting time, duration of program and geographical accessibility. The seven lecture classes and thirteen discussion groups were divided into three parts for study, as follows: (1) six test classes, (2) ten test discussion groups, (3) two control groups (one class and three discussion groups). The control groups differed from the test groups in subject matter only; the test groups studied identical subject matter. All data were collected by a questionnaire which was developed by the author. The questionnaire was distributed and collected in one evening during the fourth and fifth weeks of the course. The data analysis occurred in two stages: (1) the socio-economic scores and social participation scores were calculated by use of the McGuire-White Index scale and the Lionberger and Coughenour schemes respectively, and (2) the hypotheses were tested for significance by the chi square test at the .01
level of confidence.

The subjects in the Carroll (13) study were parents with a child in the three to five year age range who voluntarily attended a parent education group program at their children's pre-schools. Thirty-four of the parents had children attending the Florida State Child Development School during 1954-55. Twenty-four of the parents had children attending the Independent Presbyterian Kindergarten School during 1955-56. Fifty-three subjects were parents of children who attended the Independent Presbyterian Kindergarten School during 1956-57. The groups all met bi-monthly for one and one-quarter hours each time. To determine attitudes the long form of the Wiley Child Survey was administered to the 1954-55 group and the short form was given to the 1956-57 group. The data were analyzed for significance. (Test not indicated, nor level of confidence.)

The sample in the Davis (18) study was a probability one which was stratified by the year of reading by Great Books discussion groups which met in November and December, 1957, in metropolitan and non-metropolitan areas. One hundred and seventy-two groups, averaging eleven in size, were in the sample, selected at random. The number of Jews, Democrats and unmarried persons were over represented in the sample due to the fact that participants in Great Books program were disproportionately urban. The data were collected by a self-administered questionnaire. The effects of the program or the change which occurred due to the Great Books program was difficult to ascertain because control groups could not be formed. To overcome this the statistical scores of the beginning and
advanced members were divided into three groups: (1) those who had completed less than one year, (2) those who had completed one or two years, and (3) those who had completed three or more years. If the program did have effects then the advanced participants should show different statistical scores than the beginners. Tests for statistical significance including the chi square were used to analyze the data. A "cluster analysis" statistical test, a method of correlating all possible pairs of items, was used to analyze the part of the questionnaire concerned with motivations for participating in the program at the .05 level of confidence.

The data for the Davis (19) study were collected from the participants who had previously been studied by Davis (18). The information on the status of persons in the sample for this study was obtained from questionnaires to leaders and from informal questions to community coordinators. The whole question of group retention and the factors responsible for it were examined in this study. It described the salient characteristics of the participants, attempted to analyze the roles they played within the small discussion groups. The remainder of the study devoted itself to a detailed analysis of the factor related to dropout. What kind of person survives and what kind of person drops out? What group factors and what individual factors affect retention? To analyze the relationships of individual and group characteristics to retention statistical analysis called complicational effects was developed.

(19:p.24)
A total of fifty-four voluntary participants from six different study discussion groups on World Politics were tested by Hadlock (29). The educational background of the experimental group ranged from high school to doctorates. The control subjects consisted of faculty members and some faculty wives. All of the control members had a baccalaureate and none was currently participating in an educational activity. The data were collected before the second class session and then after the last session. The instruments used were: (1) tests of critical thinking, developed by the cooperative study of evolution in general education, (2) the cooperative English test reading (level of comprehension and vocabulary), (3) Sanford and Alder's short authoritarian scale which was derived from the Berkeley F (ascisin) scale. The results were analyzed for statistical differences by the "t" and the "f" variance tests.

In the Hill (33) study the population consisted of 576 participants who were enrolled in the UCLA extension study discussion program. The experimental design called for ten division groups of twenty members each, two small lecture groups each with twenty-five members and of one large lecture class with one hundred members. For interviewing purposes six members were selected at random from each discussion group; two of these were assigned to the beginning interview, two for the end interview and two for both beginning and end interviews. Sixty-three participants were selected at random for interviews from the large class and these were distributed at random among the three interviewing patterns. Twenty-
five participants were selected at random from the small classes and they were all interviewed at the beginning and the end of the program.

The experimental design required that (1) the subject matter be the same for both discussion groups and lecture classes; (2) the subject matter be treated in eleven two-hour sessions; (3) each meeting be incorporated in a half hour dramatic recording; (4) the same reading material be used by all participants. The data were collected by questionnaires, interviews and direct observation. The pre-questionnaire contained information about the expectations of the participants, their previous experience in adult education, their attitudes, their knowledge of anthropological concepts, and the socio-economic characteristics of the participants. The post-questionnaire measured attitudes, judged program effects, evaluated various aspects of the program and ascertained knowledge of anthropological concepts. The interviews were semi-structured and they obtained information on motivation for participation, organizational affiliations, reading habits and evaluation of their roles in informal group situations. The data were analyzed for significant differences by rank order correlations and the chi square test at the .05 level of confidence.

The Kaplan (36) sample consisting of participants and leaders were selected at random from four study discussion programs: World Affairs Are Your Affairs, An Introduction to Humanities, Ways of Mankind, and World Politics. In all, 150 participants and fifty leaders were picked. One hundred of the participants were from Los Angeles groups, twenty-
five from Pasadena and twenty-five from Whittier. The fifty leaders were chosen from the above three areas. One hundred of the participants had been in groups prior to the spring of 1956 and were interviewed once. The remaining fifty participants were new and were interviewed before the group started, in the middle of the series and after the last meeting. The groups met for a total of ten weeks. Half of the leaders were in the program previously and they were interviewed once; the new leaders were interviewed both before and after the completion of the program. The interviews were done by five investigators including two political scientists, two psychologists and the author. The data were analyzed by percentages.

Both the experimental and control groups in the Shapiro (56) study of twenty-five members each were selected at random from fifty-three families who participated in the Family Health Maintenance Demonstration. These two groups were similar in occupation, education, religion, age and sex. On a group basis they were matched according to the number of children per family, age distribution of the children, annual income and nativity (foreign born or not). A questionnaire was mailed before any announcements were made of the discussion group, and following the twelve meetings it was mailed again. The questionnaire was adapted from Harris, Cough and Martin which in turn was based on Shoben's parental attitude questionnaire. For this experiment the questionnaire consisted of three parts: (1) attitudes toward children; (2) child handling practices; and (3) a situational test with five or six courses of action. A total of
115 items were included in the questionnaire. The responses were classified into attitudes of authoritarianism, parent-child integration, rigidity, fussiness and good judgement. The answers were tested for significance by the "t" test at the .01 and .05 levels of confidence.

**Findings on the Discussion Group in Liberal Arts**

Study discussion programs as part of university extension offerings are comparatively recent, and it has been the concern of educators to find out the effects of such programs on the participant, and what kind of participants are attracted to such programs. The Fund for Adult Education sponsored three studies to investigate these factors which were carefully designed to measure the effects of "liberalization" which is the overall objective of study discussion. To determine the effects of liberalization is difficult because of the diverse and sometimes vague interpretations given to this term, but these studies attempt to measure liberalization. Hill (33) has combined all of arts education into the following general learning areas for which the discussion was particularly suited: the development of mental abilities and skills, changes in values, interests of attitudes, and increased knowledge.

**Effects of the Learning**

**Participant Evaluations.** In all of the three study-discussion experiments, the participants were asked to evaluate the program in a general way. In the Davis (18) study the participants were asked for
their impressions of the program, and their responses were categorized according to the degree of impact which the program had on them. Forty-two per cent of the participants reported that it was a marvelous program and that it had a genuine impact on them; 55 per cent said that the program was fine but didn't change them much; 0 per cent reported that they did not get anything out of the program. Hill (33) asked participants whether they were satisfied with the program, and 90.1 per cent reported that they were satisfied. Of this number, 18.4 per cent were completely satisfied; 51.6 per cent were satisfied to a considerable extent; 20.1 per cent were more satisfied than dissatisfied; 4.2 per cent were neither satisfied nor dissatisfied, and 5.7 per cent were satisfied to some degree. Kaplan (36) reported that 80 per cent of the participants said that the program had met their expectations. In all cases most of the participants were either satisfied or impressed with their discussion program.

Kaplan (36) found that more men than women were satisfied to an unqualified degree. The differences between the answers of men and women were significant at the .05 level of confidence in the "yes" and "partially" satisfied categories. Furthermore there were no significant differences at the .05 level of confidence between the college graduates and the non-college people.

Hill (33) reported that only religious preference and occupation were significantly correlated (.05) with satisfaction; i.e., Protestants and professionals were more satisfied than Jews and non-professionals.
In the Davis (18) study, the younger and the higher status people were less likely to report that the program had a high impact. Persons with no college or part college reported that the program had a higher impact than did college graduates and post graduates. There were conflicting results about the role of educational level reported in the studies. Kaplan (36) found that there were no differences between the groups, and Davis found that the less educated were more impressed.

In addition to queries about general satisfaction and the impact of the program, the participants were asked to comment on materials and leadership and about taking new courses. Twenty per cent of the participants in the Kaplan study were critical of the materials used and of the leadership; however, 59 per cent thought that they were good or excellent and 30 per cent were critical of other participants. These criticisms were levelled at specific points rather than at the general picture. College graduates seemed to be more satisfied with the leadership than non-graduates, but they were more critical of other participants.

In the Hill (33) study 54.4 per cent of the participants recommended that changes be made in the reading materials but they said that they were satisfied with the general format of the program. In the lecture class, 20 per cent of the participants felt that the instructors were inadequate and the same proportion of discussion participants were dissatisfied with the leadership, as too directive or too laissez-faire. These specific points of course concern the style of the leadership which is related to the technique.
We can say that although a sizeable minority were critical of materials, leadership and other participants, they were "normal" criticisms to be expected and not basic criticisms of the method.

The experience in a discussion group was so successful that it encouraged participants to participate in other study discussion programs. In the Hill (33) study 38.5 per cent of both the lecture class and the discussion group participants intended to take another course and 55.5 per cent reported that they probably were interested in taking more courses.

The majority of the class and discussion group participants in the Hill (33) study preferred their own method, but a significant (.05) proportion of both lecture class and discussion participants would have preferred a combination of lecture and discussion techniques within their own method, class or discussion groups.

**Acquisition of Knowledge.** Kaplan (36) found that 63 per cent of the participants in the discussion programs reported that they had gained some knowledge of the concepts of the subject matter they studied. The difference in knowledge gained as measured on an objective test given to those having completed one and two years and those having completed no years was found by Davis (18) to be significant at the .01 level of confidence. The difference between those who had been in the program three or more years and one and two years was significant at the .001 level of confidence. The Davis study also discovered a substantial
increase in knowledge in those who had participated in the Great Books program. This increase was particularly marked for the participants who had most exposure to the program.

In comparing knowledge gained in lecture class versus discussion participants Hill (33) found that both groups gained equal amounts of knowledge. We can conclude then that participation in discussion groups brings about gains in the amount of information acquired.

**Changes in Attitudes, Values and Ideologies.** When asked whether they had changed their attitudes or values during the course of their discussion programs, the Kaplan (36) participants said that they had changed their attitudes and ideas in such areas as conceptions of authority, family relationships and modern art. Kaplan concluded that some of the answers were general and indicated that growth had occurred in objectivity. In testing for changes in values Davis (18) used the Morriss scale of such large scale abstractions as groupyness, activity, hedonism and contemplation and found that there were no significant differences between those who had spent no years in the program and those who had spent one or two and three or more years in the discussion groups.

In testing for specific ideological changes in religion and politics Davis (18) found that the participants were more willing to accept liberal, rational and skeptical approaches to religion. The groups having the longest exposure to the subject of eighteenth century political thought in the Great Books program developed significantly
greater liberal tendencies at the .05 level of confidence.

Previously it was reported that Hill (33) found that discussion groups members showed greater attitude change than did lecture class participants in accepting democratic procedures and were less ethnocentric; however, these differences were not significant as well as in the other three attitudes measured. Hill concluded that the hypothesis stating that discussion group members will evidence greater attitudinal change than lecture class members cannot be clearly rejected.

For the majority of the participants registered in study discussion programs there seems to be some indication that changes in attitude did take place; however, no radical changes occurred and no real differences existed for the majority of participants between class and discussion methods. Some liberalization such as the broadening of attitudes seemed to occur over the period of the programs. The Davis (18) study provides some evidence that attitudinal and ideological change is a long-term process.

Changes in Reading Habits. More than 40 per cent of the Kaplan (36) participants, when questioned, answered that they read more "intellectual" material because of their discussion experience. In a more quantitative analysis of the reading habits of the Great Books participants, Davis (18) found that there was a significant increase in the serious materials read for the members who had been with the program three or more years compared with those who had been with the program one
and two years. He also mentions that this is only a quantitative and not a qualitative analysis of reading in that he could not determine what benefit they had derived from their reading. Hill (33) found that his discussion participants had also increased their reading, however, he found no significant differences at the .05 level of confidence between the discussion group and lecture class participants. There seems to be general agreement in the studies that participating in study discussion programs was found to increase serious reading among those involved.

Aesthetic Skills. One of the goals of the Great Books program was that of the development of aesthetic appreciation. Davis (18) investigated this by developing tests for musical appreciation and poetic sensitivity. There was no evidence to support claims that musical sophistication and the ability to judge poetry increased with the number of years of association with Great Books programs and it was concluded that this kind of learning was acquired outside the setting of Great Books discussion.

Critical Thinking Skills. The measure of critical thinking skills was mentioned by Kaplan (36) and was examined extensively by Hadlock (29) who defined critical thinking as a process of examining and analyzing information or facts and then assimilating them into one's own mental structure. Kaplan commented that three of the eight groups under observation had made some progress in their ability to analyze problems and to think critically. Hadlock investigated changes in critical thinking
occurring in a group which had participated in a discussion program sponsored by the American Foundation of Political Education. The experimental and test groups were given tests for critical thinking before and after their discussion experiences. He found that critical thinking scores of the test group did improve significantly at the .05 level of confidence and the factors of age, authoritarianism and education did not affect changes in critical thinking.

**Friendship Formation.** One important consequence of the discussion experience is the expectation that friendships will be formed within the group. This should reflect whether the atmosphere provided by discussion groups is conducive to friendly social interaction. One-third of the Kaplan (36) participants indicated that they had formed new friendships which had continued beyond the period of the discussion program. Hill (33) reported that discussion group members had formed such friendships but that lecture class participants had formed significantly fewer friendships, however, the formation of friendships was not an expectation of the class participants.

**Community Involvement.** One of the goals of liberal arts is an increased sense of community awareness and responsibility. Participants in the Davis (18) study became significantly more aware of community problems and developed more understanding of them. This increase in understanding did not lead to a change in actual involvement. On the other hand, Hill (33) found that discussion group members became signi-
significantly more involved in community affairs than did class participants, however, he qualified this by stating that the class participants had been more highly involved in community affairs to begin with than discussion group members. This increased involvement of discussion members might be attributable to the fact that the groups met in the community whereas the classes met at the universities. Apparently, discussion group participation results in greater intellectual awareness of community responsibility but there is little evidence to indicate that this awareness leads to action.

Participants

Age. Participants in the Davis (18) study were in the twenty-five to forty-one year age group while those reported by Kaplan (36) had an average age of thirty-eight and one-half years. Studies comparing lecture class and discussion group participants found that they were in approximately the same age groups as the discussion group participants. Hill (33) reported that 40.6 per cent were in the thirty to thirty-nine age group, however, Buttedahl (12) found that a median age of thirty-five in the class population which was significantly younger than the media of forty-one among discussion group participants at the .01 level of confidence. On the other hand, the lecture class participants studied by Hill were significantly older than his discussion participants at the .05 level of confidence.
Sex. Kaplan (36) and Davis (18) both found women in the majority, with 63 per cent women and 37 per cent men reported in both studies. Hill (33) reported no significant differences at the .05 level of confidence between lecture class and discussion groups in the ratio of male to female participants. Buttedahl (12) found 79 per cent women in the lecture class and 68 per cent in the discussion group. In all cases women predominated in both classes and discussion groups.

Marital Status. In the Davis (18) study 74 per cent of the women and 82 per cent of the men were married and of these, 54 per cent of the married men attended with their wives and 36 per cent of the women with their husbands. Kaplan (36) found that 79 per cent of his discussion participants were married and that 50 per cent of them enrolled without their spouse. Hill (33) noted that 71.4 per cent of his sample were married and that a higher percentage of the discussion group participants were divorced or separated than was found among the lecture class participants. Buttedahl (12) reported that 49 per cent of the class participants were married compared with 75 per cent of the discussion group participants; this difference was significant at the .01 level of confidence.

Education. Eighty-four per cent of the participants studied by Davis (18) had some college with 91 per cent of these male and 79 per cent female. The same status is evident in Kaplan (36) who found that 88 per cent of the sample had attended beyond high school.
and of these, 59 per cent had college degrees of whom 82.2 per cent were male and 45.7 per cent female. A lower proportion of people in the Buttedahl (12) study had university training; lecture class participants reported that 60 per cent had university whereas 63 per cent of the discussion participants had high school or less. These differences were significant at the .01 level of confidence. A higher proportion of the participants studied by Hill (33) had attended college with 84.3 per cent reporting some college. Hill found that there was no significant difference at the .05 level of confidence between lecture class participants and discussion group members.

**Occupation.** The majority of the participants in the Kaplan (36) study were in the professions and in higher business or supervisory positions. Davis (18) found that 60 per cent of the discussion group members were in the professional category. Hill (33) found that there were significantly more men in sales and more women in clerical positions in the discussion groups than in the lecture classes. Buttedahl (12) found that discussion group and lecture class participants differed significantly at the .01 level of confidence in terms of occupational distribution. He reported that 35 per cent of the lecture class participants were in the professional categories as opposed to 20 per cent of the discussion group participants.

**Social Participation.** Davis (18) found that 43 per cent of his discussion group participants belonged to two or more organizations.
Buttedahl (12) calculated a social participation score and found that lecture class and discussion group participants did not differ significantly at the .01 level of confidence in terms of social participation.

**Length of Residence.** The length of residence in the community is a measure of the stability of the population. Buttedahl (12) found that there were no significant differences between lecture class and discussion group participants at the .01 level of confidence with respect to length of residence.

**Previous Experience in Adult Education Activities.** According to Kaplan (36), 58 per cent of the participants he studied had participated in adult education prior to their involvement in the study discussion program and 36 per cent of these had been members of discussion groups previously. Buttedahl (12) compared lecture class with discussion group participants and found that discussion group members had had significantly more experience with their own method than had lecture class members. This difference was significant at the .01 level of confidence.

**Attitudes and Values of the Participants.** As noted earlier in discussing the class method, Hill (33) found discussion participants more tolerant of ambiguity and more committed to democratic group procedures than lecture class participants. Discussion group members thought that their previous experience with discussion groups was more
valuable than did lecture class members. This difference was significant at the .001 level of confidence.

The political and ideological position of participants was determined by both Kaplan (36) and Davis (18). Kaplan found that more than half considered themselves to be "liberal" and only 15 per cent "conservative" in politics. The participants in the Davis study identified themselves as members of the Democratic party in 48 per cent of the class and Republican in 41 per cent. These percentages were much closer to being equally balanced than was found in the United States population as a whole where 51 per cent registered as Democratic and 29 per cent Republican. Because his sample was drawn from the high economic groups, Davis contended that this accounted for the nearly equal numbers of Democrats and Republicans, but this isn't entirely satisfactory as both parties have their liberal wings so that figures of this kind do not give us a true indication of political liberality.

**Dropouts.** Davis (19) has exhaustively examined the problem of drop-outs in his study of participants in Great Books discussion groups. He sought to determine whether retention was related to the individual or the group or a combination of these factors. In the Davis sample, about one-third of the groups lost more than 50 per cent of their members; another third lost between 30 per cent and 50 per cent and the last third less than 30 per cent.

The factors influencing retention isolated by Davis (19) are
summarized as follows:

1. The age and size of the groups had no effect on the dropout rate except that first year participants were more likely to drop out.

2. The kind of role (joker, harmonizer, task) played in the group had no effect on dropout, however, the number of different roles taken by members did have a bearing on the dropout rate and retention was better in those groups where the level of activity was high.

3. Retention was not affected by member contacts outside of group meetings unless this kind of contact resulted in higher levels of participation within the group.

4. Leader training and the acceptance or rejection of group discussion techniques recommended by the Great Books Foundation had no relationship to the dropout rate.

5. There was some evidence to indicate that the dropout rate was higher in those cases where group members wanted the group leaders to use a special technique and they did not do so.

6. Sex differences and marital status were related to the dropout rate only when large numbers of women in a group lower the activity level and when the number of married persons in the group tend to raise the activity level.

7. A higher proportion of high status persons tended to lower the dropout rate.

8. High incidences of interaction in the community were favorable to
retention, but there were indications that this interaction must be intellectual rather than purely social in which case the dropout rate was raised.

9. Members who were better prepared were less apt to drop out than members who were not.

10. Group members with some skill such as poetic sensitivity, liberal arts knowledge or a college education were less likely to dropout than if they had no intellectual skills. Davis pointed out, however, that the dropout rate might increase if a member was too well prepared or possessed too many intellectual skills for his group. The possession of a college degree alone did not ensure retention.

11. In high activity groups, political composition had no influence on retention, but in low activity groups political diversity lowered the dropout rate.

12. The dropout rate was higher among people who adhered to a religious position with some degree of commitment. In groups with a high number of protestants, the dropout rate was higher than for groups with fewer protestants. The author suggested that openness to religious ideas probably improved retention and that there was a slight case for diversity of religious representation in a group.

The dropout as described by Davis (19) is frequently a first year participant, inactive, disapproves of leadership, of low status particularly in a low activity group, has not done his homework, has no
particular skills or formal academic training and tends to have fixed religious views. On the other hand, the person who remains in the group is usually active, satisfied with the leadership, of high status, participates in outside activities, does his homework, has some intellectual skills or academic training and is open to religious ideas.

The group factors conducive to retention are: not a predominant or all Protestant group; high levels of activity within the group; many members active in community affairs; a high proportion of males or married couples; large numbers of high status members.

Davis (19) concluded with four generalizations regarding retention:

1. Groups are important because the discussion group provides an atmosphere in which social relationships can develop and grow. The atmosphere of the discussion group seems to make intellectual endeavors more stimulating than they would be if pursued outside of a discussion group. The intellectual content of study discussion plus group discussion combines to create the vitality of Great Books Programs.

2. Preparation is important because it helps to stimulate the discussion and raises the activity level of the group. The active groups are the most viable ones.

3. Discussion activity is the key to retention. Persons who are active in the discussions are the best candidates for retention. Activity, Davis concluded, could be listening or talking, whatever role seemed to satisfy the participant.
4. Groups are affected by social structure; the patterns of social interaction acquired outside of the program play a part in whether the participant is active or not. In other words, the factors which constitute activity are conditioned in the outside social milieu and cannot be created in the discussion atmosphere. Hill (33) found that discussion group dropouts held attitudes on authoritarianism, democratic group procedures, ethnocentrism, and tolerance to ambiguity, which were 1.5 above or below the standard deviation mean of the group. Hill's hypothesis that these people would leave the discussion group due to social pressures was upheld. There is a certain degree of similarity in these results with those of the Davis (19) study on the political and religious liberality of dropouts. In both cases it was the deviant who dropped out, either the overly enlightened or the very unenlightened.

Findings on the Discussion Group in Parent Education

Effects of the Learning.

Three studies have been made in the field of parent education where the concern was not intellectual liberalization but the development of understanding in the parent of the relationship of the child to the parent; the child to the school and of the parent to the school. These studies were concerned largely with attitudinal change and with conceptual change.
Attitude Change. Both Shapiro (56) and Carroll (13) expressed the need for evaluative research into the effects of discussion groups in bringing about improved parental attitudes, particularly child-rearing attitudes. In addition to measuring attitude change, both studies evaluated the effects of frequency of attendance.

Shapiro (56) tested the groups for differences in authoritarianism, possessiveness, fussiness, integration, permissiveness and good judgment. No significant differences existed between test and control groups in fussiness, integration and permissiveness, but the test groups became significantly less authoritarian (.01), less possessive (.05) and they developed significantly better judgment (.01) than the control groups. In attitudes where the differences were not significant, positive attitudinal changes had occurred with the test groups. Regarding attendance, it was found that the higher attenders achieved significant changes in authoritarianism (.01), in integration (.05) and in good judgment (.01) whereas the low attenders achieved significant changes only in their attitudes towards permissiveness (.01). Shapiro concluded that the child-rearing habits of the experimental group changed in the predicted direction. The high attenders achieved greater attitude change than those who were low attenders. Other conclusions indicated that those whose initial scores were more favorable improved significantly more than those whose scores were initially "less desirable". Those who attended three or less meetings were mainly in the less desirable category.
The effects of the factors of sex, social class and the number of children on attitude change were tested by Carroll (13) and the Wiley Child Guidance short form was used to survey child-rearing attitudes. At the .05 level of confidence no significant changes were noted for two out of three of the study groups on the Wiley test. Although one of the groups showed evidence of change, this was not strong enough to satisfy the tests for significance. No more significant changes occurred for parents attending four or more sessions than for those attending three or less although there were changes in a positive direction for the high attenders. A significant relationship was found between social class and the total scale and between social class and toilet-training habits which was one of the factors in the scale. Size of family was found to be related to the factor of boy and girl differences. Sex was not found to be related to any part of the Wiley test.

Carroll (13) explained that lack of significant gains was probably due to the shortness of the test period which was indicated by the attendance results and that changes did occur for those who attended most frequently, to lack of a sensitive measuring instrument and to the quality of leadership. Shapiro (56) seems to have discovered more differences attributable to the method than did Carroll, but Carroll indicated that there were several factors in the conduct of his experiment which may have been responsible for this.

Conceptual Change. Chandler (14) examined changes which
occurred in professed parent role concepts and standards of child behaviour in a study discussion course for mothers held over a period of eight weeks. She also examined the correlation between mother and child responses but found no significance in the result and concluded that the mothers had acquired more developmental concepts of their parental roles and had also, but to a lesser extent, acquired more developmental concepts of child behaviour.

The five things tested by Duvall were used to assess the "good mother" and "good child" responses of the mothers before and after their discussion experiences. The "t" scores indicated that significant differences at the .01 level of confidence occurred between the pre and post "good mother" responses. The differences between the pre and post "good child" responses were significant at the .05 level of confidence.

These parent education studies of the effects of discussion groups on both the attitudes and concepts of child behaviour and parental roles show that certain attitudinal changes can occur and that it is possible for conceptual changes to occur providing attendance is good and the total time allotted for the course is long enough for the learning task involved.

Findings on the Discussion Group in Health Education

In study discussion where no one is proselytizing for change, education is enjoyed for its own sake and is sought voluntarily by the participants. In health education, the educator is "injecting" new
ideas into the community which are vitally important to the health of the public. The main differences between liberal and health education is that in the former the participant seeks out learning whereas in the latter the participant is sought out because of the importance attached to public health improvements. Health educators realize that you cannot force new practices on the public, that practices will not be changed unless the public is convinced of their validity. Bond (8) states that the aim of all health programs is to motivate people to do things for themselves. In this sense, the method chosen by health educators must allow for as much democratic participation as do the methods used in liberal arts programs. In the past, health agencies have tended to use informational "methods" such as the lecture to disseminate information about new health practices; but, as Bond comments, these methods have not necessarily ensured action.

Lewin's (43) by now famous studies done at the University of Iowa during the second world war on food practices have shed a great deal of light on methodological effectiveness in bringing about attitudinal and behavioural changes. On the basis of these studies, Lewin developed theories about the processes of decision-making in small groups. Other authors in health education have used Lewin's theories in their research.

The Lewinian theories maintain that it is easier for a person to change cultural habits in a group than in isolation. In any decision-making there is resistance to new ideas. This resistance may be due to fear of accepting an idea which deviates from the social norm. Group
decision lessens resistance to change because of the high degree of participation allowed in group decision. The learner is able to find out how others in the group stand on an issue. Once the group has aired the issue and the individual is certain that others are receptive to the idea, then the time has come for decision making. The group has, in effect, set a standard for itself where the decision is no longer simply an individual one; it is one which the group itself has made. In this atmosphere of acceptance the individual is freer to make a decision. In Lewinian terminology, decision-making is facilitated by the removal of counterforces to the new idea.

Many others have followed Lewin's example and have examined the differences between the lecture and decision techniques. Because many of these studies were of a pilot nature and because not much indication is given in them of the method used, only the Bond (8) study will be mentioned here. The method is of course not named in this study, but it is clear from the description of the sample that Bond set up discussion groups using already existent groups. This is a unique procedure and there is only this one study to demonstrate the use of on-going groups within any method. This way of setting up a discussion group was no doubt based on the theory that socially based decisions are best made in viable social units.

A mature group will develop certain qualities (such as cohesiveness and responsiveness) which a newly formed group would not possess. An established group would be able to discuss matters much more comfortably
and without inhibitions than could a group of strangers. Bond in her adoption study, has measured group maturity, the quality of cohesiveness and responsiveness. These measures were taken in both the lecture and the discussion groups prior to the meeting, just as the participants were assembling.

Table 15: Bond (p. 50)

Comparison of Discussion-decision and Lecture Groups as to Certain Characteristics of Group Process

<table>
<thead>
<tr>
<th></th>
<th>Discussion %</th>
<th>Lecture %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Group process prior to meeting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>divided into pairs, clusters</td>
<td>11.9</td>
<td>12.1</td>
</tr>
<tr>
<td>communication includes most of group</td>
<td>88.1</td>
<td>87.8</td>
</tr>
<tr>
<td>2. <strong>Type of conversation in early part of meeting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>personal or general but involving entire group</td>
<td>77.2</td>
<td>75.8</td>
</tr>
<tr>
<td>&quot;social&quot; conversation</td>
<td>22.8</td>
<td>24.2</td>
</tr>
<tr>
<td>3. <strong>Attitudes of warmth shown</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>slight</td>
<td>11.9</td>
<td>9.1</td>
</tr>
<tr>
<td>moderate</td>
<td>57.1</td>
<td>57.6</td>
</tr>
<tr>
<td>marked</td>
<td>31.0</td>
<td>33.3</td>
</tr>
<tr>
<td>4. <strong>Attitude toward filling out forms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>definitely cooperative</td>
<td>81.0</td>
<td>66.6</td>
</tr>
<tr>
<td>polite acceptance of task</td>
<td>9.5</td>
<td>21.2</td>
</tr>
<tr>
<td>some definite resistance</td>
<td>9.5</td>
<td>12.1</td>
</tr>
<tr>
<td>5. <strong>Attitude toward designating leaders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ready decisions made without comments</td>
<td>75.2</td>
<td>81.8</td>
</tr>
<tr>
<td>confusion or resistance to making choice</td>
<td>23.8</td>
<td>18.2</td>
</tr>
</tbody>
</table>
These measures show that the groups are mature; the members have certainly formed friendships, leaders and patterns of feeling toward one another. Perhaps another index of overall maturity, although purely a quantitative one, is the length of membership; Bond found that 57 per cent of the discussion groups and 66.5 per cent of the lecture groups had been with the study group longer than three years.

If both the discussion groups and the lecture groups are equivalent in their group characteristics then one would expect cultural learning to be greater in the discussion group, if one is to use the Lewin theories of decision making as a basis for the experiment.

**Effects of the Learning**

**Adoption.** In the Bond (8) study, the purpose was to compare the effectiveness of a mass informational "method", the class lecture and of the discussion group decision "method" in bringing about the adoption of new health practices.

The objectives of the experiment were translated into three null hypotheses which stated in effect:

1. That there is no significant difference between the women in the control and those in the experimental group who received a breast examination from their doctor and a demonstration on proper self-examination techniques at any time during the test period.

2. That there is no significant difference between the women in the control and experimental groups who conducted their own breast self-
examinations during the test period.

3. That there is no significant difference between the women in the control and experimental groups who have demonstrated their breast self-examination technique to a qualified person by the thirteenth month following the cancer education meeting.

All three subhypotheses were rejected at the .001 level of significance. There was a significant difference discovered in the first practice. After a six month period, 34 per cent of the discussion group members had received an examination from their doctor and 21 per cent of class participants had, after thirteen months; 59 per cent of discussion group participants had received an examination versus 39 per cent of the class participants.

In the second practice of establishing monthly self-examination the results were as follows: discussion group, 51 per cent; class 30 per cent; after thirteen months, discussion group 58 per cent; class 27 per cent.

In the third practice of demonstrating a self-examination technique to a qualified person, discussion group participants again were more successful than class participants. The results were:

<table>
<thead>
<tr>
<th></th>
<th>7 months</th>
<th>13 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>discussion</td>
<td>16%</td>
<td>36%</td>
</tr>
<tr>
<td>class</td>
<td>8%</td>
<td>18%</td>
</tr>
</tbody>
</table>

There is conclusive evidence that the discussion group environment was more effective for decision making, but Bond (8) says that more work
needs to be done on the decision technique. It should be used within the
class method to see if it could be as effective as when used in discus-
sion groups.

Participants

In addition to the three main hypotheses the relationship of other
factors such as age and education were calculated.

Age. It was found that age was related to only one practice.
Women under forty were more likely to demonstrate the technique of breast
examination to a physician than older women. Those fifty to fifty-nine
were more likely to practise self-examination than women forty to forty-
nine (who are the most vulnerable category for breast cancer).

Education. The amount of formal schooling was not related
to performance in any of the three practices.

Audio-Visual Aids. In both the discussion group and the
class those members who had read the pamphlet describing the self-
examination technique were higher adopters. In the practice of self-
examination, only in the class group was there a relationship between
those who saw the film and those who did not. Women in the class who
saw the film were more likely to practise self-examination.

Acquaintanceship with Cancer Recoveries. This factor was
only significant for women in the class who ranked higher in self-
examination than those who had not known anyone who had recovered from cancer.

**Experience with Breast Examinations.** Women in both groups who had consulted a physician for an examination four months prior to the test period were significantly more likely to consult their physician for an examination after the meeting. In the class, women with prior experience fared better in the other two practices as well.

**Discussion Afterwards.** Women in the class who discussed cancer control with someone after the meeting were significantly greater self-examiners than those who had not discussed cancer control with anyone. These relationships did not show up in the discussion group.

**Previous Knowledge of Self-Examination.** Women in the class who had read an article on the technique of self-examination reported that they were influenced by it, and they were greater adopters of the technique than those who had not read such an article.

**Leadership Position.** In all three practices leadership positions were not related to performance, although this was not as significant for discussion group members as it was for class participants.

Bond (8) concluded from these results that certain differences in the performance of the class participants indicated that those who were more successful than the others had had previous knowledge or experience with cancer or with persons who had had cancer which enabled them to
perform at a higher level than those class participants who had no previous experience with any aspect of the disease. She maintained that the reasons these effects were not related to the performance of discussion group members was that the discussion group meetings served to broaden the experience and the realities of cancer for those participating. Through participation in the groups many more women were able to overcome the emotionality of discussing cancer and were thus able to adopt the practices more readily than were most of the class participants. Therefore the Lewin (43) theory that conflicts are lessened in discussion groups, by the airing of a problem and through the setting of group standards which enable the person to feel that he is not alone in adopting a new practice, seems to be valid.

Summary and Conclusions

In the foregoing review of the studies on the discussion group it is evident that this method of adult education has certain advantages for mature people who desire to be involved in the learning process. In the democratic atmosphere created by discussion responsibility is shared and learning is achieved as a group. Something has been learned as well about the participants and some of the effects the experience had on them.

The discussion group has been proven an efficient learning environment in which information may be acquired and changes in reading habits affected comparable with results achieved in the class. There were some doubts, however, about discussion stimulating participants to become more
involved in outside activities than the class did.

In skill learning, discussion was found to be particularly ideal for developing critical thinking skills, but the discussion group did not prove to be an effective environment for the development of certain aesthetic skills such as music appreciation and poetic sensitivity.

There was no conclusive evidence from the research that the discussion group was superior to the class in effecting attitude changes. It would seem from the studies on parent education that changing deeply rooted attitudes is a long term process. Small changes may occur over the period of the experiment, particularly for those who attend regularly, but these changes were not great. In all of the studies it was found that the experimental period was too short to effect significant changes.

The adoption research based on the Lewin (43) theories indicated that socially based decisions are made best in a discussion group environment particularly when the decision technique is used. The active social patterns developed in mature groups make it easier to deal with difficult or "touchy" subjects, and social changes can be effected more readily. These results indicate that it is advantageous for educators to use mature groups where the social interaction patterns are securely established when dealing in matters involving social change. When the atmosphere is predominantly information-giving it would seem that social change will not occur even though mature groups are used. In such a setting it is almost impossible for questions to be discussed and examined to the satisfaction of the participants. Only in the atmosphere of dis-
can satisfactory results be obtained.

One really gets down to understanding the discussion group method when the participants are identified. There are more women than men participating in study discussion programs; a majority of members are married; they are highly educated, with the men being better educated than the women; most are in professional or managerial categories which are higher status occupations, although when discussion group members were compared with lecture class participants it was found that the discussion group tended to attract more clerical and sales personnel. The figures in a Canadian study found more of the lower status in discussion groups than in lecture classes. It was found that discussion group members are more active in the community and less transient than most. One study found discussion group members to be less inclined to social climbing than the general population of the United States. Discussion group members are more likely to have had discussion experience than class members.

There are some real differences between discussion group members and lecture class participants; the former are less authoritarian, more tolerant of ambiguity and more willing to accept democratic procedures. It would appear that discussion group members are less rigid in their political views and definitely more open to new religious ideas.

The dropout from discussion group programs is often the most highly informed, or at the opposite extreme, the most poorly informed. In terms of attitudes and values he is outside the normal spectrum,
either very liberal or extremely intolerant. Discussion groups, unlike lecture classes, do not retain persons whose attitudes are outside the norm of the group. Social pressures are a definite force in discussion groups. Perhaps in the class such persons are not required to identify their attitudinal and value positions; in the discussion group it is almost impossible for the participant to keep his views to himself. What is particularly evident is that the dropout is an inactive participant perhaps because of poor preparation for group discussion, lack of education and skills or because of holding fixed opinions. The successful participant is one who has been conditioned by his environment to possess the skills necessary for active participation in a group.

The Verner definition can now be extended to include information on the kinds of learning which can be achieved best in the discussion group. These are critical thinking skills and skills required in social communication; also certain cultural practices may be adopted or modified in the social environment provided by the discussion group.

VII. INTERNSHIP

As defined by Verner internship is a method in which:

a relationship is established so that an individual can have an opportunity, under supervision, to integrate knowledge and skills already acquired through direct participation in a situation similar to that in which such integrated behaviour ultimately will apply. (62:p.14)

Inherent in the Verner definition are the learning goals of internship. One learns in reality to apply and to define knowledge and skills
According to the Report of the Commission on Graduate Medical Education (53), internship began in the field of medical education about 150 years ago. The reason for its inception was that lectures and demonstrations were felt to be an inadequate preparation for medical practice, and internship was the remedy which supplied the necessary practical training in the hospital environment. Internship did not become a widely used method until the 1900's. Today, internship is used in professions such as library science, social work and adult education for the purpose of training professionals under actual field conditions; also, in new fields such as community development there are orientation periods for new staff which are identical to internship although the period of orientation is shorter.

No research is available on internship but with the increased emphasis on it in the newer aforementioned professions it should be forthcoming. Because of the use of internships in on-the-job training it is hoped that these important applications of this method will be investigated.

VIII. LABORATORY

Introduction and Description

Because of tradition one tends to associate the laboratory with hydrogen sulphide, formaldehyde and acid-stained lab coats, but we have
to get beyond such images in considering the broad uses of the labora-
tory in adult education. Verner's definition of the laboratory in terms of
process rids the term of any traditional connotations. According to
him the laboratory is:

a learning situation in which knowledge may be acquired or applied
by a number of individuals simultaneously in a learning activity that
is an artificial construct of reality. (62:p.15)

Three basic elements in this definition identify the learning goal
and the relation of the learning environment to reality. The phrase
"knowledge may be acquired or applied" indicates that the laboratory is a
method in which abstractions may be made concrete. The phrase "in a
learning activity that is an artificial construct of reality" indicates
that the material is learned in a situation which simulates reality, not
on-the-job. "By a number of individuals simultaneously" conveys the
impression that the information gained is meaningful to the individual
alone. A number of individuals are together perhaps because it is econo-
mic to teach in this manner, but the learning does not require social
interaction.

The Verner definition of laboratory is broad enough to include
many processes which have not been considered laboratories before, for
example, shop sessions and home economics practice sessions used in
vocational training.

Very little research is available from which to describe the unique
effectiveness of the laboratory in adult education. Two studies,
Feintuch (25) and Reiser (52), have been done in the field of social case
work. In this setting the laboratory is called the "sheltered workshop".

As explained by Feintuch (25) the sheltered workshop is a simulated factory situation where the clients learn simple industrial tasks under the supervision of caseworkers. Reiser (52) describes the sheltered workshop as a situation in which the client works in an atmosphere that in time becomes more like the factory environment into which the worker will eventually go. It is a gradual process leading from sheltered conditions into the atmosphere of regular working conditions.

The sheltered workshop is not a form of apprenticeship because the participants are learning in a simulated environment not in a real one. They learn how to cope with tasks which later will be carried out in the real world. Although the skills being learned are important only to the individual concerned and are not social skills, the group atmosphere is necessary because the individual when placed in a factory will be required to work alongside others, perhaps on an assembly line, so that the assembly line must be part of the learning environment to simulate reality.

Research Designs

The Feintuch (25) sample consisted of fifty-two white Jewish adults who had been unable to find or to keep work in industry over a period of six months because of advanced age, physical or emotional disabilities. They comprised almost the entire caseload of the Baron de Hirsch Institute and the Vocational Counselling Services.
The sample was selected with the following criteria in mind:

1. Clients must be able to find and to keep employment in regular industry because of physical or emotional reasons and must be receiving financial aid.

2. They must be able to go to work and return home by themselves.

3. They must be able to work a full week, from thirty to thirty-five hours.

4. They must have the full use of their fingers and be able to do sedentary work of a very light and simple nature.

The data were obtained from records of employment and from attitude rating scales. The attitude scale used was the Wilcoxin's Matched Pairs Ranks Test. The Pearson Product Moment Test, the chi square test and "t" test were used to determine significant differences at the .01 level of confidence.

The population of the Reiser (52) study included clients with behavioural and functional problems, orthopedic, visual or organic ailments and mental retardation. There were two groups of sixteen persons each. One group received group counselling in addition to the sheltered workshop experience; the other had only the sheltered workshop experience. The thirty-two clients, who were all Jewish and male, were placed at random in the two groups. For purposes of counselling the test group was divided into small groups ranging from six to eight persons.

The sheltered workshop program consisted of two weeks of diagnostic evaluation, two weeks of productive evaluation, and eight weeks of work
adjustment training during which time the men worked six hours a day, five days a week. The counselling group met for one hour a day, three times a week, at the end of the work day. During the first two weeks of the workshop the supervisor-psychologist gradually became more structuring and limiting in his behaviour. During the last few weeks the atmosphere conformed to the actual work situation.

Before the twelve-week program started the client was required to answer questionnaires and tests which took two hours each day on two consecutive days. A post-program of tests was administered immediately after the twelve-week program. The instruments used were the Wechsler Adult Intelligence Scale which measured changes in intellectual functioning, the Thematic Apperception Test which measured changes in interpersonal relationships and the sixteen personality factor questionnaire which measured changes in manifest anxiety level as well as changes in certain personality characteristics.

The two groups were equivalent in age and education but not in socio-economic status, and in view of this the data were examined by the use of non-parametric distribution free statistics.

The Mann-Whitney U test treated the test-retest data; it required only ordinal scaling, and it has a power efficiency of 95.5 per cent of the "t" test. Significant differences were calculated with U to see how the groups differed.
Findings

Effects of the Learning

In both the Feintuch (25) and Reiser (52) studies the sheltered workshop was investigated for its effectiveness in modifying attitudes towards employability. In both experiments the population consisted of previously unemployable persons.

The object of the Feintuch (25) study was to investigate the effectiveness of an integrated program of vocational counseling and placement casework with a sheltered workshop in favorably modifying attitudes associated with the employability of difficult-to-place persons who previously had received the same services without the use of a sheltered workshop.

Four hypotheses were formed to test effectiveness:

1. An integrated program of this kind (described above) could increase significantly the employability of difficult-to-place persons.

2. These clients possessed attitudes towards work and towards self which correlated significantly with their employability.

3. This sheltered workshop program could modify significantly these attitudes in a positive direction.

4. Characteristics and attitudes could be found which differentiated significantly between those who developed a relatively high degree of employability and those who did not.

The Reiser (52) study attempted to determine the comparative effectiveness of a sheltered workshop program and a sheltered workshop
plus counselling group therapy on inter-personal relationships, anxiety levels, intellectual functioning and certain personality characteristics.

**Stability of Employment.** Feintuch (25) found that the mean number of days employed per year increased and this was significant at the .001 level of confidence. The average number of days of employment per job increased from 17.2 days, prior to the workshop, to 69.5 days after the workshop. This, too, was significant at the .001 level of confidence.

**Attitudes.** In seven out of fourteen of the attitudes towards employability Feintuch (25) found there was a significant relationship at the .01 level of confidence. Three of these attitudes, feelings about good work habits, feelings about giving an employer a full day's work, use of disability as a barrier against finding work, were significant at the .01 level of confidence.

**Modification of Significant Attitudes.** By use of Wilcoxin's Matched Pairs Test Feintuch (25) found the mean increase in rating for each of the seven attitudes was significant at the .001 level of confidence. Seven characteristics were found to differentiate between the subject who had high employability and those with low employability after the workshop. Those who demonstrated high employability were under fifty-five, resident in Canada less than ten years, had one or more dependents, were handicapped only moderately, had been employed for
twenty days or more during the one year prior to the workshop, were able to get along with others, and had received financial assistance less than one year.

Feintuch (25) generalized that difficult-to-place persons demonstrated a significant increase in employability and in stability as a result of the integrated program of vocational counselling, casework and sheltered workshop, but a substantial minority showed little benefit.

Changes in Interpersonal-relationships

Reiser (52) found that a planned vocational experience will not affect significantly inter-personal relationships, anxiety levels and intellectual functioning at the .01 and .05 levels of confidence. It was found also that the addition of group counselling did not result in greater functioning in these three factors. There were trends in the data which indicated that positive changes did occur. Reiser stated that the short time of the experiment and the relative stability of the variables did not allow the improvements to reach significant levels.

Summary and Conclusions

The research available on the uses of the laboratory in adult education is sparse. Obviously it is a method which is not used as much in adult education as it is in pre-university and university education. However, two studies on the sheltered workshop, a form of the laboratory, to train the emotionally, physically and culturally handicapped to acquire
vocational skills in a protected environment were located.

It was found that the sheltered workshop resulted in attitude change towards employment and some minor changes in inter-personal relationships, in anxiety levels and in intellectual functioning. It was found that changes in attitudes towards employment also stimulated behavioural change. Those persons exhibiting attitude change also developed more stable work patterns as they worked significantly more days per job than they had before participating in the sheltered workshop.

Participants who became better employment risks were less handicapped physically, had better work records and received less financial assistance than those persons who were found to be poor employment risks. In other words, this study found that a hard core of difficult-to-place persons did not respond to the program.

Further research on sheltered workshops is needed to determine what length of time and how much intensive counselling in addition to the sheltered workshop will help these difficult-to-place persons. Rehabilitative vocational training is a vital part of community development efforts with the culturally handicapped, and this again is an area that is untouched by research.

IX. WORKSHOP

Introduction and Description

The workshop and the clinic are terms which may be used inter-
changeably for what is evidently the same process. Perhaps more emphasis is given in the clinic to providing information with less opportunity for practice; however, on the whole the workshop and the clinic are very similar in format as we shall see from the description of the processes in the research.

Andrew (3) did not define the workshop as such, but it is possible to describe the process from the techniques employed. The entire population participated in the information sessions after which they were divided into eight small groups of ten persons each for purposes of discussion. The informational topic used in the panel discussion was "How to Live with Children"; the lecture covered "Psycho-sexual Development"; the subject dealt with in the film was "Face of Youth"; the records covered the topics "Dealing with Destructiveness" and "Moral Training of Children".

The format of the Cooley (15) clinic is typical of what many other extensionists, including Wilson and Gallup (66) refer to as method demonstration meetings. This process is not exactly like the other workshops under discussion because the audience was not divided for discussion but it was sufficiently like the others to be included here rather than elsewhere.

The human relations training workshop studied by Fleishman, Harris and Burtt (26) offered courses at the school in labor relations, planning and organizing, logical thinking, economics, public speaking, human behaviour, and building a team.
Techniques used included lectures, group discussion, role playing, visual aids and text books. The pattern here was for information on human relations principles to be given first and then efforts made to have the men learn how to apply these and to integrate this knowledge into their own thinking through role-playing situations and group discussion.

The Hariton (30) study did not give much detail on the process, but it did indicate that the information sessions were given by the psychologist and the line officials were responsible for leading discussions.

Maier (45) stated that the experimental groups were given eight hours of presentation and practice on the nature of group decision techniques, four hours of which was lecture and four, group discussion. There were three consecutive discussion periods of two and a half hours duration.

In the Welch and Verner (63) study, demonstrations, lectures and work group techniques were used within the clinic setting. Information about restaurant management practices was given in the lecture, and then this was illustrated in the demonstrations. Opportunities for practice were given in the work groups. The practice sessions were used to make the information concrete.

During the Wheeler and Anderson (64) workshop the participants were given exercise sheets to read, after which they were given a timed test. Discussions were carried on by the instructor with individuals
about their problems. The students were encouraged to practise and to apply what they had learned to their own particular reading habits.

Evaluation techniques (time tests) provided much of the feedback for the participants.

The format of workshops, clinics and human relations training courses seems fairly clear; information-giving sessions, usually the lecture, are combined with devices and work groups. The purpose of the work groups is to make the information concrete so that the learning can be applied in real life. Sometimes the information sessions are held for all of the participants, and then, for practice or work groups, the members are divided into small groups if the total workshop population is large enough to warrant such a division.

The research on workshops concerns itself with the kind of learning and in some cases with factors affecting the learning. Attitude, conceptual and resultant behavioural change, the adoption of practices and the acquisition of skills will be discussed in the findings. But before dealing with the findings the research designs of the studies must be considered.

Research Designs

The population for the Andrew (3) experiment was made up of approximately eighty persons which included parents, teachers and public health nurses. The whole population participated in the information sessions after which they were divided into eight small groups. These
small groups were tested for the following leadership procedures: group oriented approach, the authority approach, question and answer approach and the leaderless approach.

An information test consisting of thirty items was given first to a control group (no number given) of college students, who were not acquainted with the principles of mental health. The experimental groups were given the test at the time of their arrival and then at the end. This test was designed to discover the amount of information acquired from each of the information sessions, e.g., lecture, panel. An additional set of questions in this test was prepared to find out whether or not the workshop participants were able to generalize information acquired. These generalized questions consisted of hypothetical situations.

An effectiveness index was calculated for the pre and post test of the experimental and control groups. The effectiveness index indicated the percentage of change that occurred as a function of the total possible change.

The women who attended the Cooley (15) clinic were first given information about the new home furnishing practices. An attempt was made by the instructor to make the information concrete by the use of demonstrations, charts and materials, and folders to take home. The audience was encouraged to ask questions at the end of the lecture and demonstrations. At no time were the women divided into small groups; all of the techniques were used with the entire group.
The population attending the nine, one-day clinics consisted of 225 4H Club members, one hundred college students, and twelve extension staff members. The names of the adults were listed alphabetically, and random numbers were used to select the subjects who were to be interviewed. Ten per cent were drawn from the three parishes which comprised the population. In all sixty people were interviewed. Of these sixty, 80 per cent owned homes, 39 per cent were on farms, and 43 per cent had been to college.

The population of the Fleishman, Harris and Burtt (26) experiment consisted of three hundred supervisors in a plant of five thousand employees. The plant was situated in a midwestern city of eighty thousand in the United States. From this population 122 foremen were selected at random who had attended the two week central school training. They were divided into three groups according to the time (two to ten months, eleven to nineteen months, twenty to thirty-nine months) which had elapsed since attending the school. A fourth group of thirty-two foremen, who had received no central school training, was used as a control.

The instruments were developed during the first phase of the experiment. A series of pre-test questionnaires were administered to a sample of supervisors representing the company's plants at the central school. Their responses were utilized to develop the questionnaires which were used in the latter phases of the experiment. The questionnaires used in the first phase were versions of those devised by the Personnel
Research Board of Ohio State University.

The questionnaires used in the collection of the final data included a supervisory behaviour description questionnaire, designed to evaluate behavioural change in the foremen, to be filled out by the workers, and a leadership opinion questionnaire to be filled out by the foremen the day they entered the school and the day they finished two weeks later. This questionnaire evaluated immediate effects of training. The leadership opinion questionnaire was also filled out by the foreman's supervisors in order to evaluate the concepts of leadership held by the supervisor under which the foreman was supposed to operate.

Some of the foremen had taken a refresher course of one week. Two groups, an experimental and a control, were chosen from this population. These groups were matched in age, education, years as foremen, number of men supervised and months since attending the school. These two groups were evaluated by the leadership opinion and the supervisory behaviour questionnaires three months after the refresher course.

The data collected by the above questionnaires was subjected to the test for critical ratios for significance at the .01 level of confidence.

In the Hariton (30) study the sample consisted of fifty first-line foremen and four hundred non-supervisory employees. The sample was divided into two experimental groups and two controls. They were matched in size, type of work and in level of morale. The two groups were given attitude tests before and three months after the completion of the course.
Changes in the employees' perceptions of their foremen were used as the basis for measuring change in the foremen's attitudes and behaviour towards employees.

The 176 supervisors in the Maier (45) study were divided into forty-four groups of four and thirty-six groups of four. The forty-four groups were given training in the group discussion-decision technique whereas the thirty-six control groups were given a half hour lecture which covered the subject "the resistance to change" just prior to the test.

In order to test the ability to use discussion-decision technique, a role-playing situation was set up. Both the control and test groups were presented with the same industrial problem, the object of which was to arrive at some solution satisfactory to the group.

In each group, one person was chosen at random to act as foreman and the three others were to act as employees reporting to the foreman. Neither the test nor control groups were aware that the role playing was a test. The situation confronting each group was one in which the foreman obtained facts which suggested a more efficient method of doing assembly work. The role playing was observed by trained observers who recorded the decision-making according to the number of successes, compromises, and failures to agree. Success was defined as the agreement of employees to change their present method of work. Failure was a refusal of the group to change their present method of work; it was also measured by no decision in the allotted time and by an imposition of a decision on the
group by the foremen which resulted in rebellion by the group. A compromise was defined simply as a majority decision by the group to change to new work methods.

The samples in the Welch and Verner (63) study were drawn at random from a universe which included any member of the food service industry in four Missouri cities. The samples were drawn in proportion to the number of food service establishments reported in the 1958 census of retail trades; 4.12 per cent of the universe was represented in the sample. The four samples were divided into:

1. Sample A which consisted of thirty-four participants who voluntarily attended the clinic. Sample A was divided into A1, those without bulletin and A2, those with bulletin.

2. Samples B and C, of thirty-three participants each who were drawn at random from a list of all the food service establishments after the clinic participants had been deleted. Sample B represented the bulletin group and C the control which was not exposed to any information directly. Any information which the members in Sample C obtained would be from indirect sources.

The participants in Sample A were voluntary, and therefore they were not representative of the industry. The Clinic attenders were better educated, from higher status restaurants, had higher socioeconomic status than the subjects in Samples B and C. The educational scores between the clinic, bulletin and control were significantly different at the .05 level of confidence when analyzed by the single
factor analysis of variance.

A scale was devised to measure adoption on seven behavioural practices. Measurement took place two months after the clinics and the distribution of the bulletin. The data were collected by personal interview. All groups were equated on the basis of adoptions which took place due to prior influences. The adoption scores were determined by a scale which assigned a value of .2 to each of the five steps in the Beal, Rogers and Bohlen (7) adoption process: awareness, interest, application, trial and adoption. Complete adoption would warrant a score of 1.0. If all seven practices were adopted a score of 7.0 would be achieved.

The sample in the Wheeler and Anderson (64) study consisted of three groups of twenty each. The ages ranged from nineteen to seventy years. Their occupations were in the semi-skilled and professional categories. The final number of subjects for statistical analysis was thirty-nine.

Tests were given for vocabulary speed and comprehension at weekly intervals. The specific tests used were the cooperative reading test Cl, form Q lower level which gave scores for vocabulary, speed of comprehension, level of comprehension and a composite total reading score. The "t" test was used to determine statistical differences.

Findings

Effects of the Learning

Attitude, Conceptual and Resultant Behavioural Change. These
studies were all concerned with human relations. Information about the principles of some aspect of human behaviour or human relations was presented in the hope that this knowledge would become part of the learner's behavioural patterns. In some cases only conceptual change was tested, and in others actual behavioural changes were measured after the experiment and over a period of time to determine how lasting the attitudinal and behavioural changes were.

The Andrew (3) study tested conceptual change and knowledge acquired. The object was to inform parents, teachers and public health nurses about the psycho-sexual development of children and specifically to develop an understanding of the meaning and use of the concept of permissiveness and of the need to channel aggressive behaviour into constructive behaviour.

The initial mean effectiveness index of the experimental group was discovered to be 18.5 and that of the control group 20.6. No significant differences at the .1 level of confidence were found to exist between the experimental and control group on the pre-test. The experimental group final mean effectiveness index was 22.6 and that of the control 13.0, and these differences were found to be significant at the .1 level of confidence.

It was found that the participants were confused about the concept of permissiveness, but there was an improvement of knowledge on all other items particularly regarding channelling aggression into constructive behaviour. The results indicated that the lecture-type presentations
produced greater gains in knowledge than the panel, record and film. The leaderless group gained most on the results.

Andrew (3) concluded that no generalizations could be made from this experiment until the results are tested again.

Whereas Andrew (3) examined conceptual and information changes after a workshop experience, Maier (45) took the process one step further to test actual behavioural changes. The object of the Maier (45) study was to examine the effects of training leaders (company foremen) in group decision techniques and to discover what changes in leadership behaviour occurred after such training.

The results showed that of the decisions made by the trained group 4.5 per cent were failures; 36.4 per cent were compromises and 59.1 per cent were successes. The control or untrained group achieved the following results: 50 per cent failures, 0 per cent compromises and 50 per cent successes. The trained group had few failures and many compromises whereas the control had no compromises and many failures. The differences in the failure, compromise and success distributions of the experimental and control groups were significant at the .001 level of confidence. Maier (45) concluded that a group's resistance to change can be sharply reduced by training the leader in group decision procedures.

In the Fleishman, Harris and Burtt (26) study attitude and behavioural change immediately before and after a training course and after a one-week refresher course in human relations was tested. Not only was attitude and behavioural change tested but so were long-term changes up to
thirty-nine months after the course. The object of the study was to examine the effects of a systematic training program in human relations on the supervisory behaviour of front line foremen or supervisors. The relationship of leadership styles (authoritarian, laissez faire and democratic) on the efficiency and morale of workers was also investigated. The relationship of the foreman to his supervisor was also examined for effects on the behaviour of the foreman after the training.

Results of the two week course indicated (leadership opinion questionnaire) that on the average there was an increase in attitudes of consideration and a decrease in those of initiating structure (authoritarianism) during the course. The following graphs show the trends in these attitudes:

<table>
<thead>
<tr>
<th>Consideration of Employees Scores</th>
<th>Initiating Structure Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

These graphs show that there was a steady decrease in consideration from immediately after the course to the second month after and from then on no changes occurred. In initiating structure, the attitudes decreased until the second month and then increased sharply eleven to nineteen
months after the course was taken. In both cases, favorable attitude changes which occurred immediately after the course did not persist; rather the foremen regressed in consideration and increased in their tendencies to initiate structure.

The graphs for behavioural change show that the behaviour of the most recently trained foremen, two to ten months, was significantly at .01 level lower in consideration than the untrained foremen. There was almost no change between the untrained foremen and the trained in initiating structure.

<table>
<thead>
<tr>
<th>Consideration of Employees Scores</th>
<th>Initiating Structure Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>48</td>
</tr>
<tr>
<td>72</td>
<td>40</td>
</tr>
<tr>
<td>64</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2-10</td>
</tr>
<tr>
<td>11-19</td>
<td></td>
</tr>
<tr>
<td>20-39</td>
<td></td>
</tr>
</tbody>
</table>

In all cases in both attitude change and in behavioural change, the trained foremen did not improve their attitudes or behaviour towards consideration, and their attitudes toward initiating structure increased and their behaviour did not change. According to the authors the two-week course seemed to have detrimental effects.

The results of the one-week refresher course were almost parallel to those of the regular two-week course. The experimental group had the
same consideration score as the control and had a higher initiating structure score than the control. In behaviour, the experimental group exhibited less consideration and initiated more structure than did the control group.

The results of the questionnaire given the superiors of the foremen indicated that a superior who was considerate and who did not tend to initiate structure would have foremen who also possessed these qualities. These results lend support to the hypothesis that the climate in which human relations principles are to be applied must give support to changes; if not, the effects of training may be nullified or retarded. One physical factor found to effect foremen’s performance was time. Time pressures were found to be not conducive to good foremanship. Structuring and lack of consideration were most evident in situations where time pressures were operative. The authors concluded that training in human relations which occurs in isolation from the practical situation will fall short of its objectives.

Hariton’s (30) study of the conditions influencing the implementation of human relations principles corroborates in part the findings of the Fleishman, Harris and Burtt (26) study on climate. The objectives of the Hariton (30) study were to evaluate the overall effects of training foremen in new human relations principles and to investigate the conditions influencing the effects of the training.

Experimental group one showed an increase in satisfaction with their foremen, whereas employee experimental group two showed a signifi-
cant decrease (no level of confidence given) in satisfaction with their foremen. Control group number one showed a slight gain in satisfaction and control group two a slight decrease in satisfaction, but these changes were not significant.

The foremen in group one (experimental) differed from those in group two in the following ways:

1. They were more receptive to the principles which were stressed in the courses.
2. They perceived greater opportunities to try out their new ideas on-the-job.
3. They were more satisfied with their superiors, and they received more encouragement.
4. They indicated greater satisfaction with their jobs and with their chances for promotion.
5. They expected greater personal benefits if the principles presented in the course were used.
6. They were more adaptable.

Hariton (30) concluded that training foremen in new human relations principles will be effective in bringing about improvements in employee attitudes towards supervision when the situation within which the foremen operate is conducive to change.

Adoption. Another area of learning for which the effectiveness of the workshop has been tested is the adoption of practices. The adoption
of practices usually requires a change in specific behaviours. The two studies being considered here tested the effectiveness of the workshop in bringing about changes in home management and in restaurant management.

The Cooley (15) study measured the effects of the home furnishing clinics in assisting homemakers to adopt the following improvements in home furnishing:

1. The arrangement of furniture for convenience as well as for appearance.
2. The use of color in the home.
3. The use of books, potted plants and other accessories in making the home attractive.
4. The purchase of furniture, bedding and mattresses.

These practices were taught by a specialist who used demonstration and lectures to disseminate the information. The results were as follows:

<table>
<thead>
<tr>
<th>Home furnishing practices</th>
<th>Percent Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-arrangement of furniture</td>
<td>70</td>
</tr>
<tr>
<td>Used different colors</td>
<td>58</td>
</tr>
<tr>
<td>Changed lights</td>
<td>45</td>
</tr>
<tr>
<td>Used accessories</td>
<td>63</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Buying information</th>
<th>Percent Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mattresses</td>
<td>12</td>
</tr>
<tr>
<td>Pillows</td>
<td>13</td>
</tr>
<tr>
<td>Sheets</td>
<td>28</td>
</tr>
</tbody>
</table>
Buying Information - Contd.  Percent Adoption

Pillow cases  17
Blankets  8

Cooley (15) felt that the clinic was a success because of the high percentages who adopted home furnishing practices. She stated that the buying percentages were lower because of the costs involved.

Certain factors affecting adoption were also ascertained. The ages of the children certainly affected adoption; 60 per cent of the adopters had children over ten years. Cooley (15) remarked that mothers with younger children would hesitate to buy new furniture.

The age of the women was another factor; women thirty-four or younger made greater use of color and rearrangement of furniture whereas women thirty-five and over changed lights and bought more pillows. It is difficult to generalize from this rather specific information. One could surmise that the younger were more willing to experiment and the older more able to spend money, or the older women may have wanted a more flattering and comfortable environment.

The objective of the Welch and Verner (63) study was to find out if a mass communication device which contains pure information with no allowance for feedback and which has built into it allowances for learner practice was as effective as the clinic or as effective as the clinic with the bulletin added.

The final adoption scores gave the results for the groups as follows:
Group A1 - Clinic only - 113 per cent
Group A2 - Clinic and bulletin - 115 per cent
Group B - Bulletin only - 42 per cent
Group C - Neither - 0 per cent.

The differences in adoption scores between groups A1 and A2 were not statistically significant at the .05 level of confidence. The differences between the clinic A and the bulletin B group were significant at the .05 level of confidence. The differences between the bulletin and control groups were significant at the .05 level of confidence.

Welch and Verner (63) concluded that the clinic method was significantly more effective than the mass communications device and that both of them were significantly better than indirect means of disseminating information. Supplementing the clinic with the bulletin did not increase adoption rates significantly. The Welch and Verner study demonstrated that the clinic with its opportunities for practice and learner participation is more effective for learning as measured by the adoption of practices than is an informational device alone which does not involve an instructional situation.

Acquisition of Skills. The study by Wheeler and Anderson (64) has determined the effectiveness of the workshop in increasing the reading skills of participants. The "t" score for the entire experiment was 3.65 at 30 degrees of freedom which was significant at the .1 level of confidence.
The "t" scores were: Vocabulary 5.38
Speed 10.17
Comprehension 4.75.

The authors concluded that the participants had improved their reading skills significantly. The atmosphere of the workshop where one receives information and then is able to practise on the basis of information gained seems ideally suited to this area of learning.

Summary and Conclusions

It is the goal of workshops to enable participants to acquire, integrate, and apply a body of information in an environment which replicates that in which it may eventually be applied. Most workshops are structured so that information is presented in as concrete a manner as possible and practice sessions permit the concepts introduced to be applied successfully under supervision. From this it is evident that learning is accomplished in two stages: first the concepts are learned, integrated and secondly, they are then applied to appropriate life situations.

One area in which workshops have been studied is in industry to train foremen to use human relations principles so that foreman-workman relations will improve and hence working conditions and productivity. The studies done here fit into the two stages of integration and application.

Several studies tested the ability of foremen to apply the principles of human relations. Some tested the ability to apply these
principles immediately after a workshop experience and others after the men had been in the field for some period of time. Foremen did learn to apply their learning when tested immediately, but two studies found that as soon as the foremen returned to the working environment the principles were not applied. In one study, particular attitudes of consideration towards employees and of democratic behaviour were not carried out, in fact the foremen became less considerate towards workmen and more authoritarian. Another study found that it was the working conditions and the attitude of the foremen's superiors which accounted for their inability to apply the new principles of human relations. If the superior was democratic and considerate towards his foremen then they in turn would be more inclined to behave in these ways towards their workmen. This research seems to indicate that unless the atmosphere of the workshop replicates that in which the newly acquired behaviour is to be applied then the effects of the workshop will be affected and perhaps nullified.

Workshops, as used in agricultural extension or in other fields such as health education where the adoption of new technological practices are the object of the learning, are referred to as clinics; however, the process is really the same with information sessions and practice groups. Even if practice groups are not used as in the agricultural extension type of one-day clinic an attempt is made by the educator to make the learning as concrete as possible through the use of demonstrations.

When the clinic was compared to the bulletin and the clinic plus bulletin it was found that the clinic alone was much more effective than
the bulletin which was a mass communications device in bringing about adoptions. The opportunities for learner participation and for feedback in the learning process of the clinic proved to be important for learning. The mass communications device with no opportunities for learner participation or for feedback proved to be an inferior means of accomplishing learning. The clinic plus bulletin was no more effective than the clinic alone. The agricultural extension type of one-day clinic has not been compared to the longer clinic with its practice groups; this could be a subject for further research.

Clinics have been used widely in physical education and recreation for teaching athletic and coaching skills, although no research is available in this area. The workshop has been tested for teaching speed reading, and it was found that participants did improve their reading speed. No matter in what field workshops or clinics are used, the goals are behavioural changes which all seem to be in the area of skill development, intellectual, physical and manual. The behaviours in question are specific enough to be acquirable in a relatively short period of time.
CHAPTER IV

CLASSIFICATION SCHEME

In Chapter II the functions of method and technique were defined; now the classification scheme devised by Verner (62) must be examined with particular reference to methods. He has outlined criteria for what appears to be a satisfactory scheme for techniques, the logic of which should also apply to a sound scheme for methods. Regarding techniques Verner has stated:

A satisfactory system of classification should conform to the following criteria: (1) It must be applicable to all techniques; (2) It must classify techniques according to real differences in the techniques themselves; (3) It must be free of value judgments, stated or implied; (4) The system must have practical applicability to the selection of techniques for use with particular groups, for specific purposes and under given conditions. (62:p.20)

The key to a satisfactory scheme for methods lies in the second point of the criteria listed above which emphasizes the importance of classification "according to real differences". Most classification schemes for adult education processes, which include both methods and techniques, have not been based on their inherent characteristics; for example, methods have been classified according to the aims of the institution using the method or, in the case of techniques, "... under the particular methods in which they are used most frequently." (62:p.19)

Verner has constructed a scheme which is based on the definition of method. In stating his rationale for this scheme, he said:

The basis for classification is inherent in the definition of method in the same way that the definition provides for the indenti-
fication of those items that are to be classified. Since method, by definition, describes a continuing relationship for systematic learning that is established by the institution with those in the public whom it seeks to educate, a functional classification system can be developed in terms of the forms which that relationship assumes by virtue of the nature of the patterns of stratification in which those in the public are found to exist. This stratification tends to assume three primary forms in the society: individuals in isolation; individuals collected into social grouping or sub-systems within the society including those which are artificially constructed by the institution or adult educator for the specific purpose of systematic learning as well as those natural groups which may be existent; and, finally, the community or the social system itself. These basic forms, then, provide the major classes for the classification of methods of adult education. (62:p.13)

This scheme is comprised of individual, small group, large group and community methods.

Individual methods ".. are those in which the relationship established by the institution with the potential learner is on a one-to-one basis. The focus of these methods is on the isolated individual where it is not possible or, perhaps, desirable for him to become a member of a learning group. The selection of individual methods by an institution may be made in terms of institutional resources, because the objectives of the institution can be achieved more efficiently and effectively on an individual basis, or because the nature of the knowledge to be diffused necessitates individual instruction." (62:p.14). Correspondence study, directed individual study, apprenticeship and internship belong here.

Small groups methods are those:

... which function in a situation permitting face-to-face communication and exchange among the members. The exact number of members is less important than the ability of the methods to accommodate such direct communication. Obviously however, there is an optimum size
in which effective social interaction can occur; however, this has not as yet been determined adequately. (62: p.15)

The class, the discussion group and the laboratory are small group methods.

Large group methods:

... are those which involve an assemblage of individuals too large to permit effective face-to-face communication (or, in which a smaller number of individuals cannot effectively use or does not need such face-to-face communication.) Membership in such an assemblage exercises only an indirect influence on individual members so that learning is essentially an individual achievement.

The assembly and convention belong in this class.

Community methods:

... are those in which the primary orientation is toward the introduction of change and the alteration of behaviour patterns within the social system as a unit with changes in individuals and sub-systems presumed to result from changes in the system of which they are a part. The learning situation is constructed within the context of the social system so that learning occurs in a setting of reality. The motivation for learning derives from the setting, and the learning tasks are directly related to problems that exist within the setting. (62:p.16)

Community development is the only method that exists in this category at present.

The classes in the Verner scheme are differentiated by the size of the group. Is size of group a function of the learning goal? Implied in the definition of method is the principle that the nature of the relationship established for learning (method) will depend on the nature of the learning goals of the potential participants. In other words, the relationship for learning will be constructed so that the learning goals may be most effectively realized. One would expect people to learn as
individuals and in groups because the learning goals for which they are striving cannot be attained as effectively in any other form of organization. In individual methods, learning is pertinent only to the individual, and, in small groups, group processes are required for the actualization of the learning goal.

The discussion group provides for social interaction so that the learner may attain certain specific goals. For example, the Bond (8) study found that certain socially based habits could be acquired more effectively in the discussion group than in the class, because in the discussion group questions could be discussed and examined to the satisfaction of the participants and a certain social climate was developed conducive to the adoption of these new behaviours.

The Hill (33) study found that social processes are in operation in the discussion group but not to the same extent in the class. Discussion group members tended to form more friendships within the group than did class members. Hill also found that social pressures may operate in different ways in the two situations. "The data suggest that 'attitudinal deviants' are more likely to withdraw from a discussion group than are those who occupy positions at or near the norm for their group. This tendency was not observed for the lecture situation." (33:pp.81-82)

Both the Bond (8) and the Hill (33) studies seem to indicate that certain goals may be acquired within the discussion group but not within the class. The Bond study in particular indicated that social group processes are necessary for the adoption of new socially based behaviours.
None of the studies found any evidence which would indicate that social group processes were necessary to the accomplishment of learning in the class; the individual could possibly acquire as much learning in the tutorial. This evidence would indicate that the discussion group and the class do not logically belong in the same category because group processes are necessary to the learning in one but not of much significance in the other.

Verner stated that a better scheme for all purposes for techniques, 
". . . would be one based on the efficiency of the technique in effecting learning and behavioural changes." (62:p.21). The learning goal is the prime reason for use of a particular method, and therefore, the aim of a classification scheme should be to classify methods by the inherent characteristics which can be demonstrated by research to achieve certain learning goals.

The key element in the environment provided by methods is overt participation. Some methods, such as the discussion group and the workshop, provide for a large measure of overt participation, whereas others such as the class and the assembly allow for much less overt participation. The high participation methods, the discussion group, the workshop, directed individual study, the laboratory, apprenticeship and internship, encourage the student to involve himself overtly in the proceedings through social interaction or practice; the low participation methods, correspondence study, the class and the assembly, can offer the learner limited opportunities for social interaction or for practising a skill.
Limited opportunities for overt participation affect the efficiency of the learning and restrict the kind of learning which may be acquired.

There are studies on the class, the residential class and correspondence study, methods which allow for limited overt participation, that indicate that either the structure of the method is unsuited to the attainment of the goal or that some adaptation of the method is necessary to the attainment of the goals. The Montross (49) study on correspondence dropouts found that, once the method was modified to include field assistance from the institution, the students receiving this handed in significantly more assignments and had more positive attitudes towards correspondence study than those who did not. Apparently, the direct contact with the institution definitely resulted in a lower dropout rate. LaCognata (40) found that the addition of residency to the class resulted in more effective learning in attitude change, behavioural change and in the acquisition of information. The students enrolled in day classes did not perform as well as the residential students. Bond (8) found that the class was not as suited to the adoption of new socially based habits as the discussion group with its opportunities for social interaction.

By adding residency to the class and field assistance to correspondence study, more opportunities were given the student for overt participation in the learning process. Because of these opportunities, the task was made more real to the student and not as much removed from their life experience. However, in all these low participation methods the degree of overt participation is not enough to allow the student to
learn anything but tasks which are abstracted from reality (purely intellectual). The application of information or the adoption of practices cannot be effectively acquired in these environments.

In the methods where the learning goals are identified as physical or mental skill development, such as apprenticeship, the discussion group, the laboratory and the workshop, opportunities for overt participation are built into the method. The discussion studies, Bond (8) and Hill (33), which compare the effectiveness of the discussion group with the class have already been cited. The learning of communicative skills and the adoption of socially based habits would seem to be the domain of the discussion group.

In directed individual study, internship and the workshop the emphasis is on applied learning. The learner acquires learning in a real life environment or in a simulated one and then is expected to be able to apply this learning to a real situation.

If all the elements are not present in the learning environment created by the method then the learning task is more abstracted from reality than is desirable for effective learning. The Fleishman et al (26) study illustrates this. A group of foremen was tested for ability to apply human relations principles after participating in a residential workshop. They learned to apply the learning immediately after the workshop, but when they returned to the job they were not able to apply these principles. Apparently, the course administrators did not consider the working climate to which the men were returning and which in most cases
was not conducive to the application of human relations principles (hostile supervisors and time limitations). The foremen knew the principles of human relations in the abstract, but when faced with a situation not encountered in the course they were unable to apply this knowledge. For this learning to be effective the men should have had the opportunity to apply these principles in a situation which replicated actual working conditions.

From all these studies it is apparent that there is a direct relationship between the degree of overt participation for which the method allows and the attainment of the learning goal. For the learning of skills, the learner must be very much involved, and involvement is encouraged through providing many opportunities for overt participation. Such is the case for applied learning. The student must be given the opportunity to learn in a situation which simulates reality as closely as possible. In skills and applied learning, the task must be made as concrete as possible if learning is to occur. The methods which do not provide for much overt participation must gear themselves to the provision of information and not expect much application of knowledge to occur.

The only factor which the method can control is overt participation. The amount of overt participation will certainly enable the participant to relate material being learned to his thought processes. Overt participation then seems to have a direct bearing and influence on how concrete the learning task may be made to the participant. As the amount of overt participation increases so can the degree of learner involvement and hence
the learning task can become more real to the learner. Conversely, as
the task becomes more complex, learner involvement must be encouraged by
building into the method opportunities for an appropriate amount of overt
participation so that the learner may achieve the goal.

Based on this outline, a two dimensional scheme for methods can
be constructed with the amount of overt participation occupying one
dimension and the resultant abstractness of the task occupying the other;
the rationale for this is that as the amount of overt learner participa-
tion increases the degree of abstractness of the learning task lessens.

These two characteristics form the basis of the Newberry (Verner
62:p.22) scheme for techniques which was refined by Stott (60). It is
logical that a scheme for methods should be a more general form than the
one developed for techniques since the latter are in effect sub-divisions
of methods. Methods provide the environment in which general learning
goals may be acquired by potential participants while techniques
facilitate the learning of specific parts of the general goal by parti-
cular participants.
### Degree of Abstractness of Learning Task

<table>
<thead>
<tr>
<th>Amount of Overt Participation</th>
<th>Abstract</th>
<th>Semi-Abstract</th>
<th>Simulated Experience</th>
<th>Actual Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensive</td>
<td>Discussion Group</td>
<td>Workshop</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Directed Individual Study</td>
<td>Laboratory</td>
<td>Internship</td>
<td></td>
</tr>
<tr>
<td>Semi-Extensive</td>
<td>Assembly (Agricultural)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited</td>
<td>Class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nil</td>
<td>Correspondence Study</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
On the overt participation axis there are gradations from nil through limited and semi-extensive to extensive. On the abstraction scale there are degrees of abstractness ranging from abstract through semi-abstract and simulated experience to actual experience.

Correspondence study, allowing no direct contact between instructor and student, is placed at the bottom of the overt participation scale; as the material to be learned usually is of an abstract nature it is also placed at the bottom of the abstract scale.

Although the class provides little opportunity for overt student participation it is not as restricted as in correspondence study therefore the class is placed slightly higher on the scale. The agricultural assembly with the devices and techniques used allows for more student participation and the tasks to be learned are more concrete to the learner; therefore the assembly is higher on the scale than the class.

While the subject matter in a discussion group may be similar to that dealt with in a class it becomes more concrete to the learner in a discussion group because of almost unlimited opportunities for overt participation; therefore the discussion group is placed at the top of the scale. Directed individual study is in a similar position because of direct contact between instructor and learner. Although the material dealt with in these methods may be related to the world of ideas rather than to skills or applied learning opportunities are made for as much overt participation as possible.

The workshop and the laboratory are methods where the learning
process is conducted under conditions which simulate reality; because overt participation is extensive and the material learned is directly applicable to reality, they are placed at the top of the overt participation scale and under simulated experience in the degree of abstractness.

Apprenticeship and internship are methods in which learning is done in actual working situations and the tasks to be learned are concrete; they are placed at the top of both scales.

Any method may be placed at a different point in the scale when modifications are made in the structure, e.g. Montross (49). Any positioning at this time is tentative at best because of the lack of research into the amount of participation necessary in making a task more real to the participant.
CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

As indicated in the introduction the purpose of this thesis was to review the research done on methods of adult education according to the Verner (62) conceptual scheme and to clarify and extend that scheme if necessary. Before examining research on the methods a survey was made of previous reviews covering the period 1949 to 1961 which was followed by a statement of the theoretical basis for this review. It was found that reviews done prior to Verner's classification system of 1962 were not much more than collections of research studies lacking a basic theoretical structure. Using exact terminology with respect to the methods and techniques of adult education Verner in 1962 prepared the way for systematic analysis in this field of learning; thus it became evident that a review using his scheme as a basis would be of value. This theory maintains that the institutional agent must consider which methods will provide the environment most suitable for the attainment of general learning goals by a potential body of learners whereas the instructional agent must choose a suitable technique within the method for facilitating the learning of specific tasks by a precisely defined population.

For the purpose of reviewing each method information was gathered on the effects of the learning, structure of the method and the characteristics of successful and unsuccessful participants.

Effects of the Learning

The goal here is to provide information so that participants may
understand it intellectually. Because of the limited amount of feedback in correspondence study it has been tested only for information learning because of the large percentage of dropouts. More work needs to be done on the kinds of learning acquirable in this method. The learning potential of the class has not been fully realized because it has been so dominated by the lecture which is an information giving technique. Other techniques which would increase participation and enhance the learning process in the class have not been utilized. A greater number of techniques, such as demonstrations, have been used in the agricultural assembly, but not many participation techniques have been used. Beal and Rogers (6) found the assembly to be most effective at the awareness and information stages of the adoption process.

**Skill Development**

The objective here is the development of physical, intellectual and social skills. Some of them are learned in reality, others in a situation which approximates reality. Although apprenticeship is a well-known method the knowledge we have of it comes only from experience; there is scope here for further research. The laboratory likewise has been virtually ignored although the sheltered workshop, a form of laboratory, has had some study. The laboratory is a widely used method both in vocational and non-vocational education and as such should be given further study. The clinic type of workshop has been studied only in
connection with remedial reading, and although it is used extensively in physical education no research is available. On the other hand concrete evidence was obtained of the efficacy of the discussion group method in developing critical thinking skills.

Application of Knowledge

The goal here is the application of knowledge to real life or to some construct of reality. Most of the research has been done on directed individual study, the discussion group and the workshop but with nothing available on internship which has been such a useful method in medical education. Internship is now being extended to other professions for training new staff members, for example the training of field workers in community development. Despite the expanding use of this method no research is available on it.

Directed individual study is a method with much potential, but the research on the counselling uses of the method are of little help to the practitioner. The clinic interview of directed individual study has been used for information giving in the hope that adoptions would occur, but it was not as successful as group counselling. This method is used in social work for counselling individuals with social problems, but no research is available on it. In agricultural extension, directed individual study has been found to be most effective at the awareness and information stages of the adoption process. More work should be done on the uses of directed individual study in the area of individual counselling;
also it would be useful to have comparisons made between individual and group counselling. There must be instances where knowledge is pertinent to the individual but not to the group.

Because of the opportunities for social interaction provided by the discussion group this method was found to be effective in adopting certain socially based behaviours.

There were indications that the workshop can be an effective method of training persons in human relations principles, provided that the learning is made concrete enough for the participants to apply those principles in reality.

In all areas of learning - information, skill, application - the research provides little evidence on the maximum and minimum learning effectiveness of the methods. What is available is fragmentary and uncoordinated.

Structure of the Method

In Chapter III each method was described from the studies and categorized according to the amount of overt participation allowed. It was found that the assembly, the class and correspondence study did not provide for much overt participation. The learner is "lectured" and information giving is the primary instructional objective. A limited number of techniques can be used with these methods, particularly in the class and in correspondence study. The assembly in agricultural extension was shown to have employed a greater variety of techniques, but the bulk
of the learning was facilitated by informational techniques. Many more participation techniques could be used in these methods to make the learning more concrete to the learner. When this is done the full learning potential of these methods will be discovered.

When the learning goal of the method is skill development or applied learning the amount of overt participation increases significantly; the student has greater opportunity for social interaction, for practising a skill or for problem solving. The environment for learning must contain all the necessary components to enable participants to apply the learning. For instance, in the Fleishman et al (26) study the learning environment did not take into consideration the conditions in which human relations principles were to be applied, and, therefore, the men were unable to apply them when they returned to work. In the Bond (8) study, the groups were existent and the patterns of social interaction were already developed. The participants in these groups were able to communicate freely with one another and to discuss the ramifications of adopting the new practices. The group lent support to the adoption of the practice. In the information group, the participants were unable to discuss the advantages and disadvantages of adoption; accordingly the percentage of adoptions in that group was significantly lower than that of the discussion group. The latter contained all the elements necessary to application of the new idea. The necessary ingredient in the Bond study for successful adoption was the participation allowed for in the discussion environment. In a new discussion group in which social interaction has
not been fully developed the adoption rates most likely would be lower; this has not been investigated.

Information on the methods designed to develop physical skills is scarce; it could be surmised that on-the-job learning is the most efficient type of method, but this cannot be based on scientific evidence.

Participants

Much of the research done on directed individual study, correspondence study, the discussion group and the class reveals how a method could be re-structured for the learning goals of certain participants to be implemented to greater advantage. The dropout studies in correspondence study indicated that only the most highly motivated and academically prepared were successful. The Montross (49) study demonstrated that if the students were interviewed occasionally the dropout rate declined. The method was modified to incorporate some face to face contact between institution and student. The liberal arts research found that discussion group dropouts exhibited attitudes and intellectual qualities which were outside the norm of the group. Social pressures forced some participants to drop out; perhaps these students would be able to accomplish their learning goals better in the class or in a discussion group where the members had similar attitudes to their own. In agricultural research (directed individual study) it was found that slow adopters did not use this method nor the assembly to gain knowledge of new practices; they obtained their information from informal sources
such as friends and neighbors. This is also true in community development; the agent must use others to reach persons who are afraid or suspicious of the specialist or take more time to develop rapport.

Participant research enables the institution to examine the effectiveness of existent methods and the techniques used within them and to consider modifying methods or of using others more appropriate to their clientele. There is very little research of this kind available to the adult educator.

Classification Scheme

The main characteristic by which all methods are differentiated seems to be the amount of overt participation the method allows. From the examination of the studies it would appear that the more a learner is able to participate overtly the more concrete the learning task becomes.

A two dimensional classification scheme was developed, based on the relationship between the degree of overt participation allowed for in the method and the degree of abstractness of the learning goal. It was found that methods like correspondence study and the class were low on the scale of overt participation whereas the discussion group and directed individual study were high on this axis.

More research is necessary to develop this scheme further. At present the maximum learning efficiency of the methods is open to speculation as it is impossible to place any given method accurately on such a scale. The degree of overt participation that is desirable is unknown.
Prior to the classification scheme devised by Verner (62) studies on adult education processes were done in isolation from one another. His scheme helped eliminate the confusion that had prevailed and established a precise terminology for the discipline. Within this framework, Stott (60) studied techniques and McGown (48) devices, and this thesis has dealt with methods, using Verner's conceptual scheme as a basis. Much research needs to be done, as has been indicated, or previous studies re-assessed and presented in an integrated way to make a substantial body of knowledge about adult education more readily accessible to those engaged in this work. It is hoped that, as a result of this survey of methods, adult educators will be enabled to select the appropriate method for a potential group of learners and base the selection more precisely on the inherent characteristics of the method concerned.
BIBLIOGRAPHY
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Criteria Used to Report Research Studies

1. **Purpose of the study.** What specifically is the author trying to do in making the study? Quote relevant material that states the problem.

2. **Concepts.** What is the relationship between the study being reviewed and the conceptual framework of research in the area? How does the author define the concept, and how does he relate his study to the theoretical concept? Quote from the study.

3. **Review of the literature.** Is the study related to any previous study or studies? Does the author indicate a relationship with previous research?

4. **A Priori Hypothesis.** What hypothesis, if any, is he proposing to test? Quote specifically.

5. **Sample.** What population is studied? To what universe can the findings be generalized? Were these groups natural or artificial?

6. **Specific Methods Tested.** What specific adult education method or methods are being tested?

7. **Nature of the Test.** How was the test organized and conducted?

8. **Data Collection.** What was the nature and form of the data and how was it collected?

9. **Data Analysis.** How were the data handled? What kind of tests were used?
10. **Findings.** Findings should be summarized.

11. **Conclusions.** What conclusions did the author arrive at, and how did he relate the findings of the study to the literature?