C H A P T E R - VII

LEARNING FROM CHANGING

Review, Observations and Recommendations

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The objective of this chapter is to distill from the
preceding chapters some general ideas about the planned
change, research and consultation. This will assist practi-
tioners of innovations as well as researchers of change.
The first part of this chapter identifies the patterns of
change seen in schools and the problems faced by them in
the organisation of change. The second part describes the
systems model. Finally, the third part suggests application
of the systems approach to change.

Patterns of change observed:

Some of the innovations taken up for the present study were at a micro level, being adopted in a few schools while others were at a macro level, encompassing all or a large number of schools in the State of Tamilnadu. The macro level changes had been initiated by the government or the department of Education. The innovations had flowed direct from the initiators to the heads of schools and the innovation decision had been an authority one. The micro level changes had seen the headmaster taking a lead role in implementing the change. He influenced the teachers generally with his authority or through persuasive measures to take up the innovations.

Two models of change were discernible in the investigation. The first one was the Research, development and diffusion model. The research agencies developed on the basis of research theories innovations that the agencies thought were desirable for the improvement of the education system. Most of the innovations following this method were of a fundamental character and desired to bring about a radical change in the system. The concepts were generally new to the practitioners who had to be given intensive orientation and training for putting into practice the innovations. The other model adopted was the problem solving model. In this model, a problem was perceived by the Headmaster, with regard to micro level innovations and by the department with regard to others. In the exercise of a search for solution

that followed, a reference to expert bodies or research
agencies was sometimes made or in the alternative, solutions
were conceived within the school system itself. The innovation,
emerging from the exercise, was then adopted in the school.

A feature that was noted in most of the innovations
studied was the lack of conviction in the innovation on the
part of most of the practitioners. The movement from the
knowledge stage to the decision stage was quick and sudden
and persuasion stage as it were was skipped over or got itself
merged with the decision stage. Similarly, even innovations
of a macro nature were not tried on an experimental basis, but
were introduced straightaway in a large number of institutions.
Conviction was therefore not built sufficiently among the
practitioners. This accounted for a good many of the innovations
to be discontinued.

Most innovations were authority decisions and the authority
strategy was mostly used to introduce the innovations. There was
no consultation with the actual practitioners. The opinion
leaders were just brushed aside and their intervention was never
sought. The passivity of the teachers was taken advantage of
by the authority to implement new ideas. This absence of
involvement of teachers in such crucial decisions as introduction
of an innovation led either to discontinuance of the innovation
or to its improper implementation. The consent and acceptance
of the teachers were taken for granted.

The lack of conviction in the innovations and the lack of involvement of teachers in decisions were two main factors for resistance to develop slowly. Resistance was generally shown indirectly. Innovations in their run increased the workload of teachers. They desired certain amount of attitudinal changes on the part of teachers. Sometimes the teachers felt their status and security of service were being affected. The change agent generally considered the teachers as opponents of change and did not see any useful purpose in consulting them. No incentives, economic or psychological were generally provided for. These features led to resistance developing. While teachers generally did not oppose an innovation openly, they adopted a strategy of uninterested participation in change. The innovation was taken lightly and implemented in a slip-shod.manner. This strategy made a mockery of the innovation, often the fundamental characteristics of the innovation missing and led to a slow death. Under the external passivity of the teachers lay hidden a sure-Killer technique.

Another common defect in the change process adopted was the absence of a monitoring system. There was no feed back mechanism built into the system. The change agent was often oblivious of knowing how an innovation was being implemented. Even where reviews had been done, the sample chosen was highly selective and did not give a full and adequate picture of the change process. In the absence of a feed back system, the practical difficulties experienced by the practitioners could

not surface and hence be known so that necessary remedial
steps could have been taken to sustain the innovation.
Resistance which ultimately developed into a weed encircled
the innovation, leading to asphyxiation. There were neither
control points nor control measures implanted into the system.

The review of the patterns of change discussed above
reveals a weakness in the change process. Adhocism and
piecemeal approaches have been made to the problems. The
forces-supporting as well as resisting - have not been
identified before hand and when an innovation runs into rough
weather, the innovation is given up or continued with inadequate
attention. Often the objectives of the innovations are lost
sight of. The investigator considers a systems approach to
change will be a better alternative whereby the inputs, processes,
outputs and control mechanisms are well taken care of.

SYSTEMS APPROACH:

A system is determined by a given set of systems objects,
and properties and their relationships. The systems objects
are input, output, process, feedback and a restriction. The
process transforms input into output. The restriction establishes
a framework for the system and its products, conditioning them
so they may ultimately correspond to the demands of the user.
The restriction comes of the objectives, calledtthe constraints,
Constraints must be consistent with objectives and not mutually
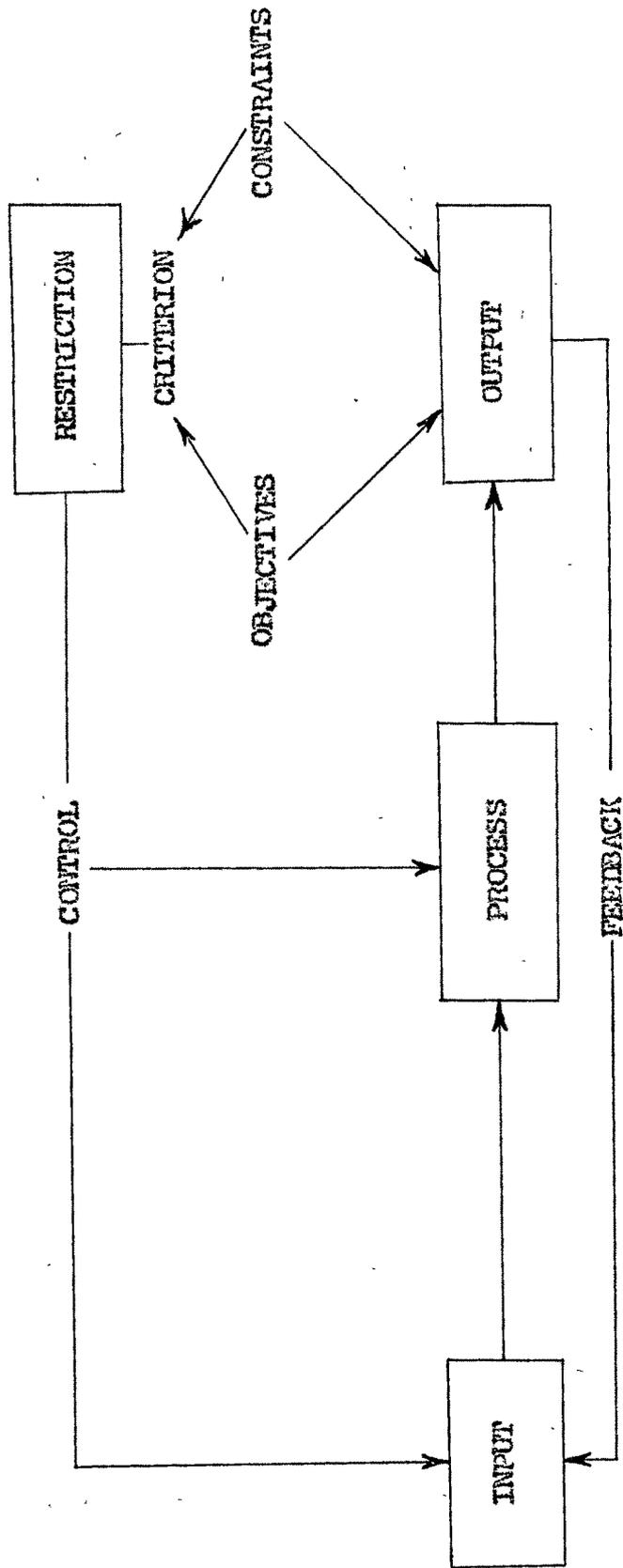exclusive. Feedback performs a number of operations. It compares

FIGURE 7.1 : THE COMPLETE SYSTEMS MODULE.

the actual output with an objective or criterion and identifies
the discrepancies that exist between them. It also evaluates
the content and significance of these differences. It computes
the required input. It also formulates the means of introducing
solution data as additional input, interacting with the basic
process to achieve the objectives. Control is exercised over
input, process and output and is achieved by correcting the
discrepancy between output and criterion. Every system is made
operational by its sub-systems. All of the sub-systems necessary
to a system describe the systems boundary. The boundary of the
system identifies its scope, and determines the totality of input,
process and outputs required to operate a given system. Systems
scope extends to all the resources required to effectuate the
restriction. The basic categories of resources are time, money,
manpower and material, Figure 1 presents the schematic relationship
that exist between the elements of a system.

The systems approach is an approach to an item as an entity
rather than a conglomeration of parts. It attempts to replace
a piecemeal and adhoc approach to a complex problem by an overall
and structural approach. The complex problem can be broken into
sub-problems which are then vulnerable to attack by specialists.
But the work of the specialists will be overtly in the context
of the major problem, so that progress within the specialist
area can be continually integrated and progress on the major
problem continually evaluated. It follows that the opportunity
to stand back and appraise the project as a whole is a permanent

feature of the systems approach, allowing changes in goals
and strategies to be affected directly by the on-going work
in specialist areas. By this means, the most important tasks
are kept in the foreground. Time will not be taken exploring
avenues which, though interesting in themselves are not important
for the realisation of the overall goals, unless a conscious
decision is made to do otherwise. An essential ingredient of
the systems approach is flexibility. Operating the systems
strategy on a new problem would require continual reappraisal,
from an over-all point of view of all aspects of the problem,
ideally by every one involved. The boundaries of the problem,
the type of specialist application and perhaps even the nature
of the problem itself would need to change as work progressed.
Flexibility and reappraisal would safeguard the freedom to
investigate the unexpected and pursue inspired hunces - activities
characteristic of so called 'pure' research in specialist areas.
But at the same time, it would ensure that the solving of the
main problem is furthered by such activities - a problem beyond
the expertise of any one specialist alone, but perhaps within
the reach of one or more minds that find themselves, through a
systems approach, to be in a position to make overall and widely
informed judgements. The significance of systems approach is
that it forces the individual to define the problem precisely,
note the alternatives available and their administrative and
economic costs and choose the most efficientalternative according

Objectives

Absolute
Constraints
- physical
- financial
- timing
- policy

Relative
Selection Criteria
- performance
- cost/effectiveness
- timing
- risk
- policy

Translation
Restatement of objectives and constraints in terms suitable for analysis

Analysis
Develop possible approaches to attain the objectives

Trade-off Study
Apply criteria to choose the approaches or tasks to be implemented

Synthesis
Integrate the selected approaches or tasks with a system model or development program

Iterate as necessary to improve the system or development program
- check balance
- Evaluate sensitivity
- Evaluate backups

Capabilities resources and new approaches

Investigate new approaches

Feedback to previous cycle investigate the possibility or revising the objectives

EVALUATION
Determine the degree of effectiveness of the system in meeting objectives.
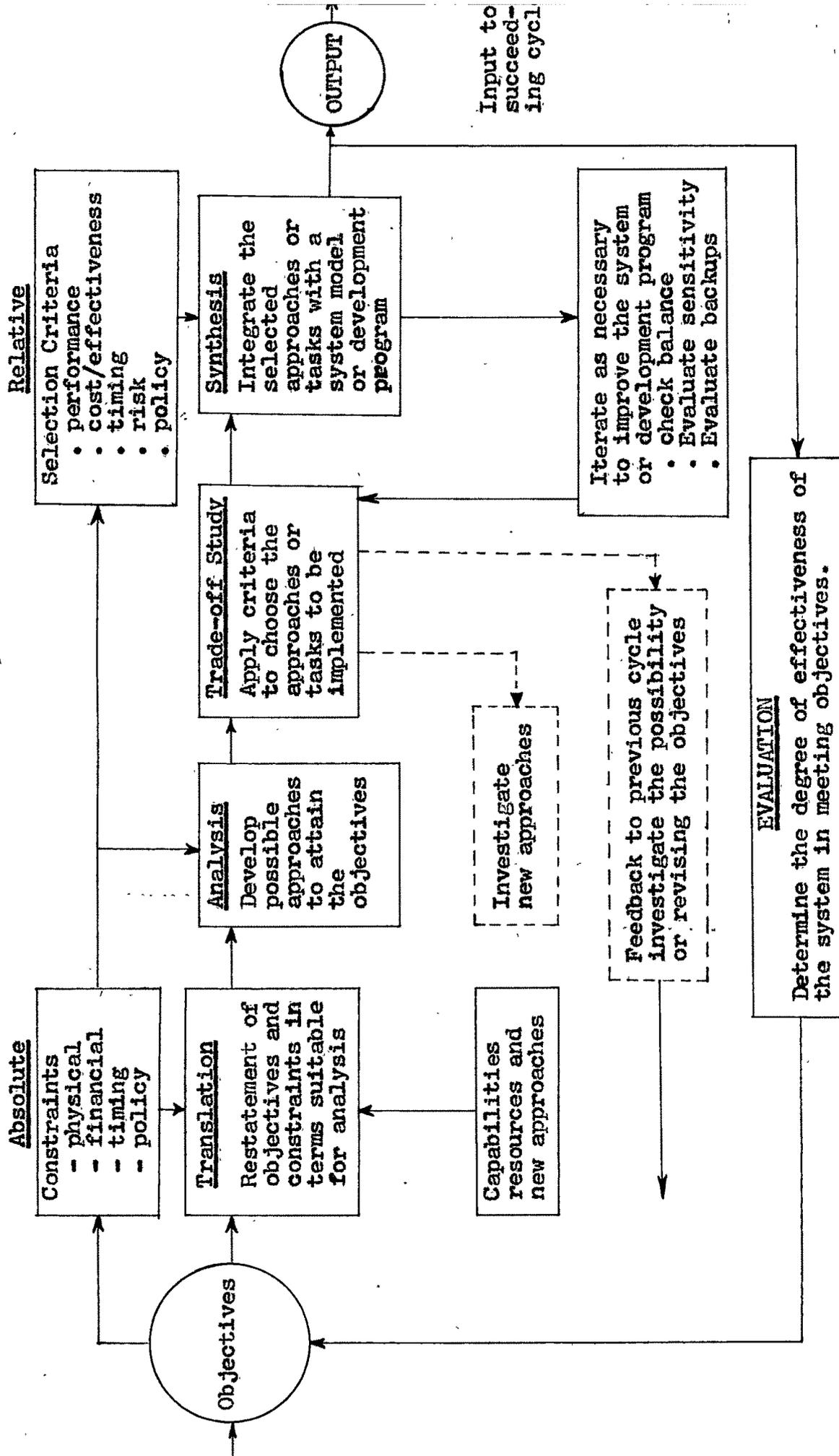
OUTPUT

Input to succeed-ing cycl

Figure7.2 : COMPONENTS OF SYSTEMS APPROACH.

to performance criteria. Today, its merit lies in its
conceptual approach; for the future, the need to refine
implementing techniques depends on our ability to define
our objectives clearly, delineate our problems accurately,
and most importantly, develop criterion for measuring how
much success we can get at how much cost. Figure 2 explains
the various components of the systems approach.

Systems Approach applied to Innovation:

The adoption of systems approach to change implementation
will at first require a feasibility study to be undertaken. This
is the examination of possible alternate solution to the systems
development problem and the checking of these solutions for
constraints of technology, resource availability and organisational
structure. For each solution that satisfies the constraints
(and is feasibile) the costs are compared to the benefits. If
the costs are greater than the benefit or if the organisation
cannot afford the resources required, then the development process
is terminated. Otherwise, one of the solutions is chosen for
implementation. Following the decision to implement a solution,
the problem needs to be defined more precisely and completely
than it was in the feasibility study. In this stage, the
objectives, policies and constraints of the user must be stated
completely and in operational terms. These statements are the
responsibility of the user. The systems requirement statement
is the basis on which a systems designer creates and designs

the system. He produces a blueprint which will be the basis
for the production of the new system. The design is a set
of detailed specifications for each component of the system,
the main components being Physical Preparation, Procedures,
Program Solutions and Organisational Changes. The physical
preparation for a system is mainly the selection and instal-
lation of equipments. Procedures provide information on how,
why and when a job is to be performed. The prime responsibility
for the implementation of procedures is that of the user, who
must eventually use them. The instructions as to how to produce
the desired solution are the program solutions. New systems
often require that jobs be performed differently and by different
personnel. This may require structural changes in the organi-
sation. The adjustments to the system changes must therefore
be carefully planned and patiently implemented to avoid
organisational resistance and failure of the new system. This
calls for orientation and training of personnel, involving
selection of personnel, preparation of educational media and
the conducting of the orientation and training sessions. Since
organisational changes have a long period of gestation, they
must begin soon after the feasibility study. Once the solution
is programmed, procedures prepared, physical preparation completed
and organisational change implemented, the system is ready for
testing. The testing must be carefully planned before it can
begin. Testing could be done on a pilot system on a small scale

and also be done in different stages and at different levels.
The results of the testing is then compared with the specifi-
cations. If unsatisfactory the system is redeveloped, If
satisfactory, the system is then ready for operation, All
these stages have been shown in a flowchart in figure 3.

CONCLUSION:

The present study is one of the many that has been
undertaken in the field of innovations during the last decade.
The investigator has strived to seek newer paths, going deep
into the problem. He has chosen several aspects of change
process for his study and the sample was fairly wide. The
administrator in the investigator was able to discern certain
laḟunae in the implementation and adoption of change. In the
light of the discussions of the case studies, he suggests that
a department of innovation and change be created in the National
Council of Education Research and Training, the State Councils
of Educational Research and Training and the Colleges of Education.
The functions of this department will include collection of
innovative practices, evaluation of innovative practices, dis-
semination of proved practices, trouble shooting, training of
practitioners, counselling, sustenance of good innovations and
recognition of schools and teachers adopting innovations. These
functions may be discharged through publication of an innovation
newsletter on the model of APEID Newsletter, periodicals and
visits to institutions implementing innovations. The Seminar

Reading Programme may also be refined and enlarged through
invitations to schools and teachers known to be innovators,
instead of expecting them to intimate their practices and
conduct of seminars in close touch with the institutions in
their area and render research guidance and other practical
assistance at the various stages of the adoption process.
Such a kind of assistance is, according to the investigator,
the most needed one by practitioners for successful implement-
ation of innovations. Figure 4 gives the flow of ideas from research
to practitioners and the feed back while figure 5 depicts the
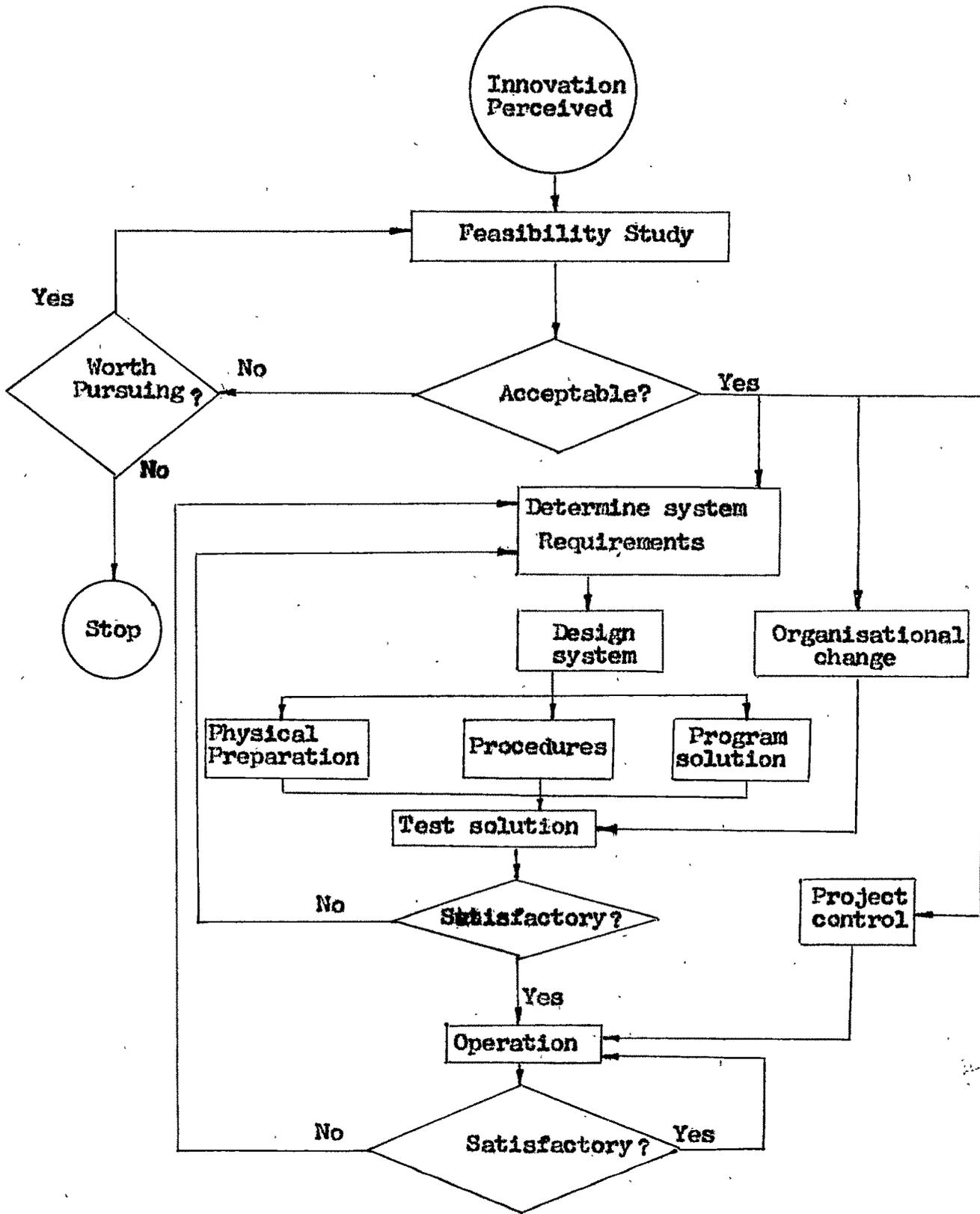role of idea bank in problem solving.

Figure 3 :   Flow Chart of System Development for Innovation.
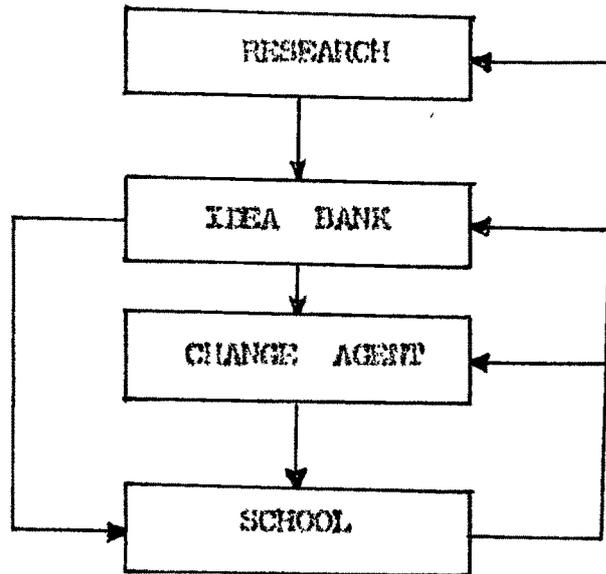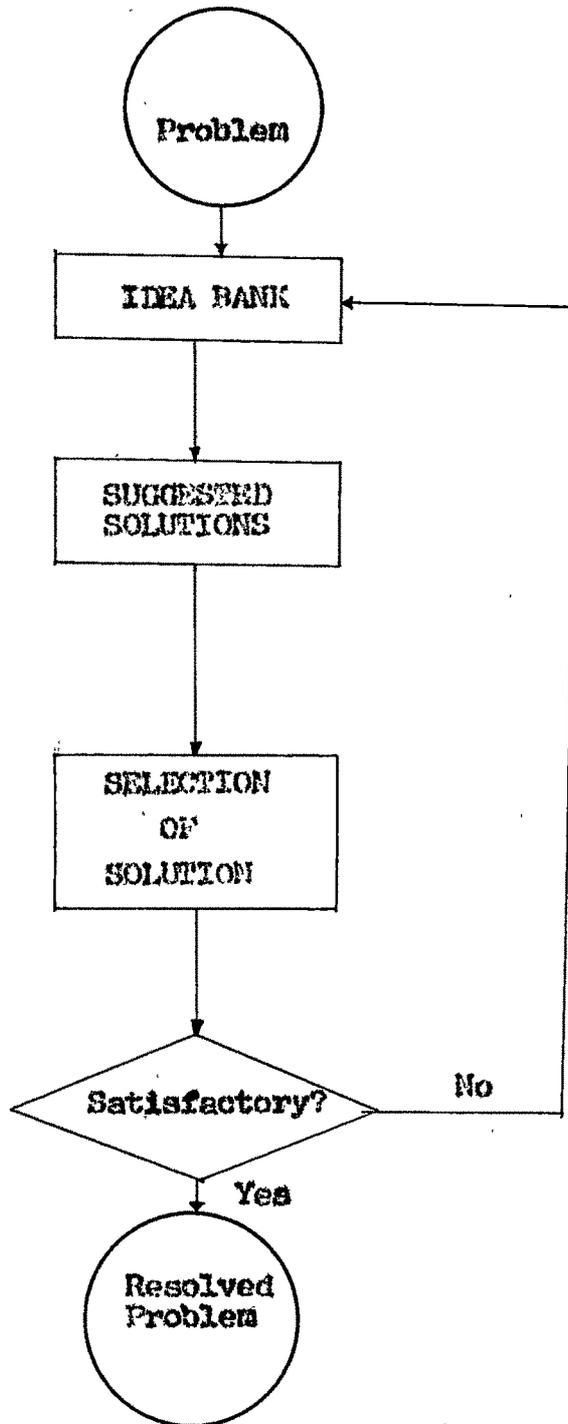
Fig.4   FLOW OF IDEAS FROM RESEARCH
TO SCHOOL SYSTEM AND VICE VERSA.

Fig.5 ROLE OF IDEA BANK IN PROBLEM SOLVING.