EXPERIMENTAL PROCEDURE:

The two school systems CASET & WALDEN were alternately put under Theory-X and Theory-Y treatments. Whether a school system was under Theory-X or Theory-Y, the different variables viz. manageability (m), opportunity to exert (E), immediate reward (R), immediate awareness of one's performance (A), interaction within and without the system (I), and autonomy (A) were first cumulatively introduced one by one and then later withdrawn one by one. The effect of such introduction or withdrawal of these variables in each system of management was noted in terms of teacher performance.

During the first year WALDEN school was put under Theory-X management design and CASET school was put under Theory-Y management design. The academic year was divided into thirteen teaching intervals and a test was administered to the children at the end of each interval. During the first interval the two schools were strictly working under the pure X & Y design of management with no special manipulation of any such variable as manageability (m), opportunity to exert (E), immediate reward (R), immediate awareness (A), interaction within and without the system and autonomy (A'). Many of these variables are inbuilt in the Y-design of administration but only in a general way.
During the 2nd teaching interval the variable manageability was introduced under both X & Y systems of administration. The other variables viz. opportunity to exert, immediate reward, immediate awareness, interaction within and outside the system & autonomy were introduced cumulatively one by one in other five teaching intervals. As both the systems were working under the joint manipulation of MERAIA*, the variables were dropped one by one in the next six teaching intervals till in the last interval the two schools were again working under pure Theory-X & Y administrative designs.

At the end of each teaching interval the students were tested & the mean of the students achievement score in different subjects was assigned to the concerned teachers. The mean performance score of teachers in each system was found & assigned to the relevant system.

Such mean scores of performance in each system were calculated & noted at the end of each teaching interval. Thus in a single year for each school system there were thirteen scores, seven of them obtained under experimental conditions X, X'M, X'ME, X'MER, X'MERA, X'MERAI, X'MERAIA, and the rest six of them obtained under seven other experimental conditions when different variables viz. A', I,A,R,E,M were dropped one by one in that order after reaching the condition X'MERAIA*. The same was done for system Y. Thus we had thirteen scores obtained under experimental conditions;

...95
This procedure was repeated for next three years keeping WALDEN & CASET alternately under Y & X systems of administra-
tions. The details of the procedure are given below:

During 1st year of experimentation WALDEN school was put under Theory-X administration and CASET school was put under Theory-Y administration.

Putting WALDEN School Under Theory-X Administrative Design:

For Theory-X administration, all rules, regulations, timetable, the work break structure, the duty sheets etc. were readymade & the teachers had only to follow the rules to the letter. All orders were passed by the managing committee and order books were circulated very often. Memos were issued for mistakes committed, strict adherence to orders was demanded. An atmosphere of insecurity and fear was instilled, encouraging aversion for informalism and respect for formalism. Flow of authority down a hierarchical chain was ensured, divide & rule policy was followed. The workers were treated like children who needed to be told what to do and who needed careful policing. Administration by direction and control was the special feature of the X-administration.
Putting CASET School Under Theory-Y Administrative Design

For Theory-Y administration, the rules, laws, regulations etc. were all framed by teachers committees. Time tables, admission procedures, rules for censuring defaulters, curricula etc., were also framed by teachers. There were no order books, instead of order books minute books were introduced where the secretary teachers union would set down the proceedings & the decisions arrived at with respect to different school problems. An atmosphere of trust, mutual understanding, informal relationship, appreciation of the dignity of an individual, and an aversion for strict formalism was induced. The jobs were fitted to individual capacities and care was taken that human beings are not treated as cogs in a machine, but human use of human beings is made. Authority was allowed to flow in both formal & informal settings. Challenging situations were created where every individual was allowed to participate according to ones potentialities and limitations. Non-interference was the watch word and self direction and self control were the special features of Theory-Y administration. Theory-Y administration has been diagramatically represented on the next page. The teachers representative, Managing Committee and present representative together formed the control. They together fixed the targets, plans for achieving the targets, and the alternate
A systems model of management of organisations based on automatic feedback control mechanism.
strategies to effectively execute the plans. At the input point were the students, newly recruited teachers and everything that would enter the system and flow through it either to get absorbed in the system or to come out as output.

At the processor point were the structural & the operating components of the school system already discussed in detail. At the output end were the students who left the school after completing the course and teachers and administrators who would leave the school for better jobs or otherwise.

So far as the students were concerned, their performance was carefully watched and compared with the targets set and differences observed as information feedback to the system with respect to its performance. This information feedback in terms of evaluation of results would help the control set up to identify and appreciate the impediments in the way of achievement of targets, to modify the targets if necessary, to replan and try a different strategy and then watch for the result.

Theory-Y was a dynamic set up where there was every time scope for re-evaluation, re-planning and re-designing of the set up. It was always a team effort where participation, integration and self control were the watch words. Under Theory-X design the teachers and parents did not ever know why what is happening. "There is not to reason why, there is but..."
to do or die (exit from the system)" formed the working rule. "Hire or Fire" policy was followed. During the first interval of the teaching phase the WALDEN and CASET were respectively put under pure X & Y designs of administration and at the end of this phase, the students were tested with respect to their achievement. The mean of the achievement scores of the students was allotted to the relevant teachers and then the scores of these teachers was further averaged and allotted to the relevant system. Thus WALDEN was represented by the mean score of the WALDEN teachers and CASET was represented by the mean score of the CASET teachers.

Introducing the Variable M to Both the Systems:

Before starting the second phase of teaching in WALDEN under X and in CASET under Y, following care was taken. In the second phase of teaching, manageability factor was to be introduced in both WALDEN & CASET. Since WALDEN was working under X design, the teachers there were allotted manageable units of work. The work break structure and the duty charts were so devised that the work was manageable for different teachers. So far as the CASET school was concerned, since it was working under Theory-Y, the teachers were encouraged to appreciate manageability factor with respect to their own work and the work of the students under their charge. Thus they
set together to develop new work break structures and duty charts for themselves and for their students. The next teaching phase introducing the factor 'E' then began & at the end the achievement scores of students were recorded & treated as in the first phase of teaching.

The same procedure was used for all the thirteen teaching phases during the first year of experimentation. The process was repeated for the next three years putting the two school systems alternately either under X or Y design of administration.

Introducing the Variable R
In Both the Systems:

Under the experimental condition "Immediate Reward" following procedure was adopted. The factor of immediate reward was introduced in both the school systems. For this purpose rank books were used by the teachers. The roll numbers of the children were noted on the rank books. As soon as a student scored a point, the teachers would note this point against his/her roll number, in the rank book. The same procedure was adopted by the administration with respect to teachers. Whenever a teacher did well in his/her job, the administrator noted it in the service book. Besides, the students as well as the teachers in both the systems were verbally appreciated for good job done. For students it was done in the morning assemblies & for teachers it was done in teacher meetings. The effect of such treatment was noted in both the systems.

...101
Introducing the Variable A
in Both the Systems:

Under the experimental condition "Immediate Awareness of ones Performance", the following procedure was adopted:

The factor of immediate awareness was introduced in both the school systems working under X & Y. Immediate awareness of ones performance was built both in students as well as in teachers. For this purpose performance charts called rank sheets were built which were fixed up in different class rooms for the children & in the staff room for the teachers. The rank sheets reflected day to day performance of students and teachers and were continuously in sight like the score boards of the games field. The effect of such treatment was noted in both the systems.

Introducing the Factor A in Both the Systems:

Under the experimental condition "Autonomy", the following procedure was adopted. So far as the school working under system X was concerned, the "Autonomy" factor was introduced by relaxing stress on centralisation. The students and teachers were allowed to go on their own pace according to their own capabilities and find their own solution for the problem they faced. So far as the Y-system of administration was concerned, the autonomy factor was inbuilt in it. During this phase of
teaching, the students and teachers were made conscious of autonomy that they were supposed to exercise for their work & for solving the problems they faced. The effect of such manipulation was noted in terms of teacher performance in both the systems.

In the first round of experimentation the different experimental variables viz., M, E, R, A, I, A' were introduced one by one till all the variables were present in both the systems. The variables were then dropped one by one in the order A', I, A, R, E, M progressively till both the systems reached their original pure X & pure Y states. The activity of dropping the variables one by one was completed during the last six teaching intervals. The procedure for dropping the different variables is described below. When both the schools were working under experimental condition MERAIA' the process of dropping the variables started. After noting the impact of the joint operation of X' MERAIA', & Y' MERAIA', in the two schools, the variable A' was dropped in both the X & Y systems. The procedure adopted for this purpose is given below:

Dropping the Variable A':

The students and teachers were both instructed to work according to the directions given and not to exercise freedom and self initiative in solving the problems they faced. Care was taken that the instructions were carefully followed. The
impact of dropping the variable A' from both the systems was noted.

In the next interval of teaching, in addition to A', I was also dropped. For this purpose the following procedure was used:

**Dropping of the Variable I:**

When the two systems were respectively working under the experimental condition \( \text{X}^{\text{MERAI}} \), the variable I was dropped from both the systems. This was done by dropping the teacher and students competitions within the system and between the systems. The Bar diagrams and Histograms were removed from the class rooms and the staff rooms. Competition at all levels was discouraged. The effect of such treatment was noted.

**Dropping the Variable A:**

The variable A was dropped from the experimental conditions \( \text{X}^{\text{MERA}}, \text{Y}^{\text{MERA}} \) under which WALDEN & CASET were respectively working. The procedure adopted is given below:

The use of rank sheets and performance charts was stopped & the rank sheets & performance charts already fixed on the walls were removed. The students and teachers were not told the result of tests conducted in both the schools. The administrative procedure was such that the awareness of ones performance was withheld from the behaving individual. The impact of such treatment was noted and the schools were set for dropping of the next variable R in the next teaching interval.
Dropping the Variable 'R':

After the schools WALDEN & CASET were respectively working under the experimental conditions \(X'_\text{MER}, Y'_\text{MER}\), the variable \(R\) was dropped. The procedure adopted for this purpose is given below:

The students and teachers were both not immediately rewarded for their performance. In the morning assembly the practice of cheering the students was dropped. Similarly, the practice of cheering the teachers in the staff meetings was dropped. The practice of issuing merit certificates, giving awards for good work, merit promotions etc. was stopped. The impact of such a treatment was noted and the stage was set for dropping the variable \(E\) in the next teaching interval.

Dropping the Variable 'E':

After the two schools WALDEN & CASET were respectively working under the experimental condition \(X'_\text{ME}, Y'_\text{ME}\), the variable \(E\) was dropped from both the systems. For this purpose following procedure was adopted:

The students and teachers in both the schools were discouraged to be on their own resources. They were discouraged to exert on their own. The only thing that was encouraged was to follow instructions. Opportunities to work and exert were withdrawn. For students this implied that they would only rewrite the class work done by the teacher and not attempt fresh work on their own. For
teachers this implied that they would follow instructions strictly. Besides this no new challenges were offered to teachers nor were they encouraged to take up fresh challenges. They were supposed to stick only to the work allotted. The impact of this treatment was noted & the stage was set for dropping the variable M from both the school systems.

Dropping the Variable M:

After the two school systems WALDEN & CASET were respectively working under the experimental condition X\textsuperscript{M}, Y\textsuperscript{M}. The variable M was dropped to reduce the two school systems to pure X & Y designs of management. The procedure for dropping the variable M is given below:

'M' refers to manageability. At the time of introducing this variable care was taken to ensure that the work break structures, the assignments, and the duty charts were developed in a way that the work was manageable both for students as well as the teachers. At the time of dropping this factor, no attention was given to the aspect of manageability of tasks. The teachers were asked to increase the work load of students and the administration was asked to increase the work load of teachers.

The work load of students was increased in terms of more home assignments. The work load of teachers was increased by making them to take more periods & giving them more assignments to do. The impact of such treatment was noted.
At the point of dropping the variable 'M' from both the systems, the two schools WALDEN & CASET were respectively reduced to the pure state of Theory-X and a very badly deformed state of Theory-Y design of administration. The same process was repeated for the next three years putting the schools WALDEN & CASET alternately under the systems Y & X of administration.

The details of how the data was collected and what observations were made under different experimental conditions is given in the next Chapter.