

Developments in Business Simulation & Experiential Exercises, Volume 8, 1981

THE SIMLAB PROGRAM

THE USE OF EXPERIMENTAL SIMULATION AND PROCESS ANALYSIS FOR THE DEVELOPMENT OF MANAGEMENT AND ORGANIZATIONS¹

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ABSTRACT

This paper is a description of how the SIMLAB program, through the use of experimental simulation and process analysis, has been used to give executives in R & D institutes the opportunity to plan and implement changes in their behavior at work. The program was developed for the Royal Norwegian Council for Scientific and Industrial Research by the Norwegian Center for Organizational Learning (NORCOL). The objective of SIMLAB has been to change the norms in organizations to create a balance between conformity to and questioning of organizational policies, objectives and rules. The concepts of organizational learning and organizational health are discussed.

INTRODUCTION

A key concept behind the work at NORCOL and the SIMLAB program is that certain norms for how managers in organizations interact with each other and employees, breed conformity and prevent Organizations from adapting to changes in internal and external forces. These organizational norms affect what managers and employees learn in terms of acceptable and unacceptable behavior. In short, the norms direct them to conform to policies, procedures and rules and to correct behavior that is seen as non-conforming. Questioning these norms for behavior is discouraged. Doing so involves personal risk.

In the long run, facing the turbulent environments of our times, the ability of an organization to survive may be hinged on the legitimacy of questioning present organizational policies, procedures and rules. Organizations that do not encourage such questioning, will see their effectiveness substantially reduced. The argument is not that conformance to policies, procedures and rules is undesirable in and of itself. It is the absence of questioning that represents a real threat. The paradox is that an organization simultaneously must encourage conformity and questioning. Apparently, this is too complex a State for most organizations to achieve.

The views expressed above may be further explained in the context of Argyris view of organizational learning [1] and Beers view of organizational health [2]. Both of these authors as we interpret them are concerned with long adaptability, or the extent to which organizations are able to maintain internal and external congruence.

Argyris concept of single loop learning in organizations deals with what we have called conformity, and

his concept of double loop learning deals with what we have called questioning. Single loop is defined as the correction of deviation from policies objectives and double loop as the

correction of policies and objectives in view of internal and external forces.

Beers concept of organizational health deals with an organizations ability to maintain a fit or congruence among the internal forces of people structure and processes and the external environment. He defines the internal congruence as efficiency and the external as effectiveness.

Our work at NORCOL has been oriented towards understanding the nature of organizational learning and its consequences in different organizations, the mechanisms that determine the character of the learning and the development of ways of changing the character of the learning.

The main problem we have addressed is that of organizational adaptability. This has increasingly become an actual problem in view of the present turbulent internal and external environments faced by organizations. These developments have been extensively documented and discussed in professional and other publications over the last decade. Whole industries such as steel and automotive, are presently facing the problems caused by Such environmental developments.

The key to influencing and changing the character of organizational learning, in our view, is held by the chief executive officer and his/her closest associates. If the top of an organization demands conformity and does not listen when underlying policies and practices are questioned, the majority of managers in the organization in time will Conform. They, in turn, will demand the same of their subordinates, unless there is a crisis of some sort as described by Argyris. Conversely, if the top listens, it will spread in the same manner. The power and influence of the top in an organization is well documented in the organizational literature.

In terms of the norms for organizational learning, our experience has been that executives individually and as a group, are not aware of how their behavior specifically and concretely affect others and their learning. This lack of awareness leads to confusion and misunderstanding. Given the power and influence of this group, this Constitutes a serious threat to an organizations long run effectiveness and adaptability.

Since early 1970, we have developed and worked with a strategy that has been used by executive groups to become aware of how their own behavior and actions affect others in their organizations. The objective has been to change the character of the learning process in organizations from primarily being oriented towards conformity to a more useful balance between

¹ References will be furnished upon request.

Developments in Business Simulation & Experiential Exercises, Volume 8, 1981

conformity and questioning to assure adaptability. The SIMLAB program described here represents one operational form of this strategy.

The strategy placed the responsibility for present and future changes in organizational learning with the chief executive officer and the executive group. The essence of the strategy is to involve the group in situations where they together over time can generate valid information about present organizational learning, make free and informed choices about necessary changes and develop internal commitment to their choices as discussed by Argyris.

The main vehicles that make up the strategy are the use of experimental simulations, and process analysis imbedded in a five phase program over a period of 16 to 24 months, sometimes longer. To illustrate the strategy in more detail, we will turn to a discussion of the SIMLAB program.

THE SIMLAB PROGRAM

The SIMLAB program was started in June of 1975. From June 1, 1975 through March 31, 1976 a detailed analysis of the working Situation for the chief executive and the executive group in R&D institutes associated with the Royal Council was conducted. Executives and lower level managers as well as researchers were involved in what was primarily a series of structured interviews. The findings were discussed in a report to the Council by Knudsen [31]. A total of 36 interviews were conducted, 13 with chief executives and 23 other top level-managers suggested by the executives. Informal discussions and meetings were also conducted with researchers in the institutes, bringing the total to 50.

It is not the purpose of this paper to present the details of the findings, but some are in order. One feature of the institutes was that the formal dominant coalition to a large extent had grown up with the institutes. A substantial portion of the chief executives had in fact started and developed their institute. Many of the other executives had been with their institute since the start. There were signs of a "generation gap of ideas about an institutes work between the dominant coalition and younger researchers. The exchange of ideas appeared to be inhibited by the generation gap and the difference in organizational tenure.

Another feature was an expressed desire on the part of researchers to be able to work with research rich in opportunities for substantive challenge and growth. At the same time, the institute executives felt a necessity to take on projects to meet needs of contractors and to insure the economic survival of the institute. Many of these projects were not seen as providing much substantive challenge or personal growth opportunities.

A third feature was the conflict or tension between administration and research. Administrative personnel expressed concern about their worth as perceived by researchers. Further, managers/researchers expressed a tension between the need to administer and the desire to do research.

In and of themselves, these findings are not startling or contrary to what one might expect in a research environment with the history of the institutes associated with the Council. The problem appeared to us to be that there were norms within the

institutes that prevented these features from being discussed openly as features of an institute that potentially could have long term dysfunctional effects. The result seemed to be that the problems caused were allowed to persist with few if any attempts to solve them.

As we discussed these findings, we felt that the issue to be faced first would be to help the dominant coalitions in the institutes become aware of the problems they faced and then proceed to attempt to find ways of changing the situation.

The Knudsen report resulted in a proposal to develop SIMLAB in cooperation with NORCOL. This development commenced in April of 1976 with a further detailed analysis of three R&D institutes that had expressed an interest in participating in what was to be the trial implementation of the SIMLAB program. By April of 1977 the entire program consisting of SIMLAB I and SIMLAB II had been implemented for three executive groups from the three R&D institutes. At this point the Royal Council through its chief executive conducted an evaluation of the program without our participation. The green light for continuation of the program was given and the next SIMLAB I was conducted some eight months later. The council funded most of the development of SIMLAB, NORCOL absorbed the rest.

By now (1980) approximately 10 R&D institutes have participated in the program with other 100 executives and the program has been followed up in about half of these institutes. SIMLAB I will be implemented for the eighth time in November of 1980. The program has also been made available to organizations outside the Council through NORCOL.

It should be pointed out that the institutes have borne the cost of participating in the program themselves. The Council has supported the program by paying the salary of the project director and funding a large portion of the initial development.

PHASES IN THE SIMLAB PROGRAM

The SIMLAB program has over time included the following five phases: entry, SIMLAB I, problem definition, SIMLAB II, and follow up.

Through informal conversations, formal structured interviews, participation in meetings, and reading of organizational documents, the executives of an R&D institute and the staff at NORCOL develop mutual relations and exchange views and values. In the SIMLAB program this process sometimes has consumed a years time. In fact, one chief executive reported he waited one year to contact NORCOL. In the meantime he asked others who were in the program for their experiences and watched from the sideline.

During the entry period the executive group is encouraged to exchange their views of their work situation with each other. The process is designed not to emphasize the perceptions of the change agent. Instead, the participants are encouraged to openly bring out their own views. We try to inform them about the program in such a manner that an executive group can make a free and informed choice to participate or not.

Developments in Business Simulation & Experiential Exercises, Volume 8, 1981

SIMLAB I

The objective of SIMLAB I is to help an executive team become aware of how they individually and as a team affect each other and others who are not part of their team through their behavior. There is a special emphasis on clarifying the norms they use in influencing the behavior of others.

SIMLAB can be viewed from at least two perspectives; as a series of practical steps taken in a development process or as a strategy for individual and team development. In this paper, both perspectives will be attempted.

As a development strategy, SIMLAB relies heavily on the use of experimental simulations and process analyses. The simulations are problem solving situations where the problems are based on significant problems uncovered through our analysis of the institutes associated with the Council. Thus, they are relevant to the executives, they are complete and they constitute task or work situations familiar to them. The process analyses consist of three significant parts. The first is a set of questions to be answered by each executive after a simulation about individual and team behavior. The second is a set of norms or rules for behavior during the process analysis. The third is a highly trained and experienced staff member who enforces the rules and is present during the analyses. These same rules are used during the entire week SIMLAB lasts and constitute a major part of the development strategy.

The simulations are run in the context of a simulated research institute, the Central Institute for Management (SIM), an institute associated with the technical council. The mission of SIM is to work on problems surrounding the management of institutes conducting applied natural science and engineering research. Thus, the executive teams work on their own problems in a simulation environment.

The typical simulation includes the following steps:

A. Preparation.

Each member of the team receives a general description of SIM at a specific date or for a specific period of time. This is the same for all team members. The general description is similar to a case in that it gives a view of the entire institute, problems, financial data and recent developments. Through a special description, the situation for each position in the team is given. There may be mail and other special documents included much like an in-basket. These descriptions do not imply attitudes, relationships or points of view as in role playing situations. Each participant is asked to use his/her own natural reactions and warned against acting. Thus the preparation specifies the initial situation for the team.

B. Simulation.

This is a meeting in the CEO's office where problems are discussed and solved. It is up to the CEO and the team to decide what is to be discussed and how. Some additional aspects of the simulation situation need description. The participants are located around a round table. There is a TV camera and microphone present with the full knowledge of the participants. The staff can monitor each team and record portions of what takes place. All recordings are erased at the end of the week in full

view of the participants. Each team can call out of a phone and may be reached by an intercom system. The teams also receive personal visits and may request such visits. The simulations are closed in that the staff represents the environment and make all personal visits.

C. Personal description of observations and reaction to what has transpired during the meeting.

Guided by a questionnaire tailor-made to each simulation situation, the participants describe their observations and reactions during the simulation. This includes reactions to their own, the chief executives and other team members behavior during the meeting. This description is done immediately after the simulation is ended and it is done individually and without discussion. The point is for each person to record his/her own experience.

D. Sharing observations and reactions.

Each person reads out loud his/her answer to each question on the questionnaire. These are constructed such that all members have room to record all the answers and they are instructed to do so.

E. Team analysis.

Based on the answers given by the participants, the observations and reactions are discussed, analyzed, and pursued with the guidance of a highly trained staff member. During this process and throughout the week, the staff encourage the participants to:

1. To formulate hypotheses about the consequences of their own behavior and that of others.
2. To search for and to use the things they observe and experience during the analysis to check out whether their own assumptions and hypotheses are confirmed or disconfirmed.
3. To express in writing and to communicate verbally their own perceptions, experiences, observations and reactions.
4. To focus on the here and now –what has happened in the simulations and during the week-their own behavior -and how this is experienced by and affects others.
5. To look for similarities and differences in their behavior during the simulations and in their everyday job situation.
6. To become aware of and acknowledge the importance of their own experiences and reactions and the effects of these on the accomplishment of specific tasks.
7. To become aware of what aspects of their own behavior create a feeling of confidence and trust by others.
8. To become aware of what aspects of their own behavior create a feeling of lack of confidence and trust by others.

Developments in Business Simulation & Experiential Exercises, Volume 8, 1981

9. To become aware of how they function as “senders” and “receiver: when communicating.
10. To check out how others perceive the messages they send.
11. To check out their own perceptions of Others’ “signals”.
12. To rely on and take seriously their own views and reactions.
13. To assume a questioning and curious, experimental attitude.

The participants are discouraged from:

1. Being concerned with winning or losing or being “best”.
2. Theoretical and hypothetical discussions that cannot be confirmed or disconfirmed by those participating in or what happens in the simulations.
3. To search for “correct” solutions to problems (in the text book sense).
4. To look for scapegoats.
5. To describe another’s personality”.
6. To describe other’s strengths or weaknesses.
7. To patronize others.
8. To prevent others from being able to pursue something they are interest in.

During the SIMLAB week, the participants go through six simulations following the procedure described above with some important additional strategic Steps.

initially, the participants are run through some preliminary exercises to acquaint them with the process used during the week and the simulation environment. One practical step is that a total of 15-18 participants select their own teams and the initial CEO for SIM. Most of the participants do not know each other across organizations and they remain anonymous except for first names. Participants from the same institute are encouraged not to all select the same team as our experience indicates that it is less threatening to work with others in the first part of the week.

During the evening of the first day, the first simulation takes place. The next day two simulations are run.

After each simulation and at the end of each day, each participant works with instruments or questionnaires designed to cause reflection on behavior and norms operating during the simulations. To provide maximum exposure and variety of experience the participants rotate positions in the teams and in turn occupy the position of CEO, personnel manager, comptroller, and research manager for two or three different divisions depending on

the number of members in the team (5 or 6).

On the third day only one simulation is run. At this point an additional analysis is added after the regular team analysis. During the first three analyses, two phenomena seem to occur. First, there is a growing curiosity about reactions to and consequences of one's behavior, especially after a person has been in the position of CEO. There are some problems however, with being tied up by the “roles” and searching for the correct solutions to the problems presented by the simulation. There is little emphasis on norms for behavior and their consequences for learning. The additional analysis, which is done exactly as the team analysis, focuses entirely on how the team members interacted during the team analysis where they tried to learn about behavior and consequences for problem solving effectiveness. As a result awareness of norms are increased and the conflict with roles dissipate.

On the second and third day a staff member discusses in a preliminary session two concepts one at a time, using concrete illustrations from the teams. One deals with attitudes and attitude formation (structuring) and the other deals with verbal and non verbal communication (congruence or fit). The emphasis is on the socialization process and its consequences.

On the fourth day the fifth simulation is run with two analyses and by this time when there are five members of a team, everyone has occupied every position.

On the fifth day the teams are changed. Executives who work together daily now are in the same team, in the positions they usually occupy. It is pointed out that this may be an opportunity for the team to check whether there has been any learning during the week. If there team is one where the CEO has participated in an earlier SIMLAB, the CEO usually joins the team at this point.

The sixth day is a half-day and the work is oriented towards reflection on the SIMLAB week and the continuance of the SIMLAB program.

One more comment is in order here. There is little doubt in our mind that the driving force during the week, at least initially is the staff and the “rules” governing the work. It is clearly an attempt to influence the behavior of the participants. These rules as described earlier, are consistent with and encouragement of as we interpret them, the Model II assumptions underlying double loop learning described by Argyris and Schon [4] in their emphasis on open confrontation, the building of trust and risk taking the statement of positions in such a way that they are testable.

Similarly what the staff discourages the participants from doing is consistent with the Model I assumptions single loop learning:

1. To define in their own terms the purpose of the Situation in which they find themselves,
2. To win,
3. To suppress their own and others’ feelings, and
4. To emphasize the intellectual and deemphasize the emotional aspects of problems.

Developments in Business Simulation & Experiential Exercises, Volume 8, 1981

It should be pointed out that we did not know of Argyris and Sehan's work when SIMLAB was designed. We think however, that the similarities in our experience with organizational learning and theirs are striking.

In conclusion with regard to SIMLAB I, it does not in our view constitute an attempt to replace conformity with questioning or anarchy, but to create a healthy balance between them to increase the adaptability of an executive group and the organization they manage.

Problem Definition

The intentions with this phase of the SIMLAB program is to give the executive team time to analyze and reflect on their own work situation in view of their experiences from SIMLAB I. At the same time preparation for SIMLAB II is started. This includes the definition of two specific problems facing the group as seen by each member of the team and a plan for a discussion of these.

A substantial amount of time is spent on identifying and selecting problems prior to SIMLAB II. Only then can the time spent on SIMLAB II be effective. In selecting problems the following criteria are suggested:

1. That the problem is critical for each person in his/her work situation.
2. The persons necessary to solve the problems are present during SIMLAB II.
3. The problem can be made specific and is manageable.

During this period there are frequent contacts between the group and staff members from NORCOL. There may be phone conversations, meetings and interviews. We want to keep abreast of the development in the group and inform them about SIMLAB II.

This phase may last from 3 - 8 months. At this point the executive group is given the option to discontinue their participation in the program. One group has done so since the program started.

SIMLAB II

After the problem definition phase, the entire executive group participates in SIMLAB II. The differences between SIMLAB I and II, are that SIMLAB II is conducted over 2-3 days and that instead of experimental simulations, the institute's own problems are discussed.

The intentions with SIMLAB II is to give the team an opportunity to solve important problems for the institute and at the same time through process analysis, give them an opportunity to describe and analyze how they do the job and its consequences for the results they achieve when they work on their own, real problems.

The work during SIMLAB II follows the same process as during SIMLAB I.

For each problem there is

1. A preparation where each person identifies his/her reactions to the problems, preferred solution, consequences of not finding a solution and the preferred process of solving the problems.
2. An implementation where the problem is discussed.
3. Description and analysis much in the same manner as during SIMLAB I.

During SIMLAB II the program is loose in the sense that it is adjusted according to the problems, the progress of the work and requests from participants. The teams work without interference from the staff. Our task is to keep track of the work and be present during the analysis phase. The advantages of SIMLAB II as we see them are:

1. The team works in a realistic Situation with the people they work with every day.
2. They are given the opportunity to do an important job for their institute.
3. Each member of the team has a real opportunity to assess how each one alone and all of them together influence the results of their work.

SIMLAB II contributes to reduce and partly eliminate the most bothersome problems in training, transferring learning from a training situation to the work Situation.

Follow Up

Four institutes are presently extending the SIMLAB program throughout their institute. One executive group follow the policy of going through a SIMLAB II process once a year. Others are planning to do the Same.

CONCLUSION

We are just now beginning to gather information about the long term effects of the SIMLAB program in the institutes that have implemented it. Interestingly, one of the institutes have recently taken the initiative to get this work under way after having participated actively in the program since its Start in 1976. We are presently engaged in the design of a follow up study in addition to the data already gathered.

Our own perceptions are that a change in organizational learning towards a confronting, questioning culture, is complex and difficult to accomplish. It requires continuing commitment from the top and a substantial investment of time and effort. The results are not, as far as we can tell, highly visible and concrete, and they are not apparent to everyone in an organization. Most executive groups have reported to us that they experience their own working relations and dealings with each other as less strained and more open and confronting. This, however, is a mixed blessing in that it requires more commitment and results in more confrontations. Maybe the best indicator of the results that are felt is the Continued support by several institutes for the program and the extension of the activity to other groups in their organizations.