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Using gaming simulation for change of organizations and for change of corporate culture

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Introduction
In this chapter I will summarize the relevant literature, my insights and experiences and some of my research in developing and using simulation games to change organizations. First (section 1) I will give six groups of arguments from the change literature and my experience that support the position that simulation games can be effective for organizational change. Simulation games can have effects that other methods or instruments are not capable of. I will then go to a remarkable application of simulation gaming for corporate culture change. I will present a summary of the literature (section 2), then I will present an extensive example in which I was heavily involved (section 3). I did research in this particular case: my dissertation (De Caluwé, 1997) resulted from this study (section 4). And I will draw some conclusions for the future use of simulation games and for further research (section 5).
From the text it will be clear that I am in the first place a management consultant, who tries to help clients and client organizations in change efforts. I encountered simulation games some twenty years ago. And I became to see them as a powerful method for certain change processes under certain conditions (which I will explain in this chapter). Besides this practice experience I am a part time professor at the Vrije Universiteit in Amsterdam. That explains my scientific interest in the active substances of simulation games.

1. What can simulation games contribute to change of organizations?

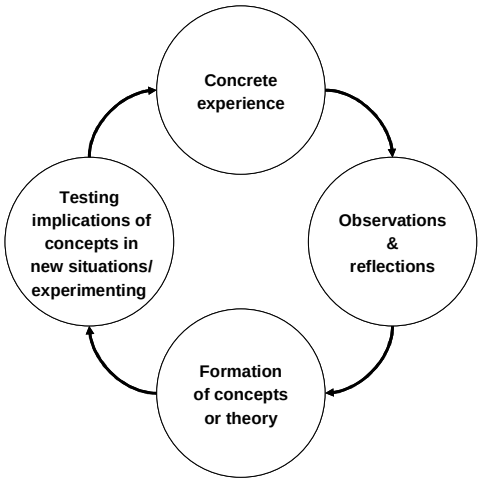
In this section I will describe six groups of arguments from the literature on changing and learning and from my experience, that make simulation games such a potentially powerful method for changing and learning. Simulation games are fairly unique in this potential: I do not know of many other methods or instruments that can cause these effects.

Coupling of thinking and doing

We know that thinking and doing are two different aspects in human beings. We also know that opinions (or thoughts or mental maps) are often loosely coupled with behaviour. Opinions do not steer or drive behaviour; behaviour can be there independent of opinions. If you ask people about the reasons or motives for their observed behaviour, they will construct an opinion that was not here before. Besides this, people make statements and give opinions that are not consistent with what they do or show in their behaviour (see Weick, 1969, 1995).The concept: “cognitive dissonance” (Cummings and Worley, 2001) explains that thoughts themselves might not be consistent or that thinking and doing might not be consistent.
Closely connected to this idea is the distinction made by Argyris (2004) between espoused theory: which is what people say they do or will do and theory-in-use: which is what people actually do, what their theory-in-practice is. There might be a big difference between these. What people say they would do, after they have read a case might be every different from what they actually do in real life or in a simulation game.
Simulation gaming has the potential to develop a closer relationship (tight coupling) between thinking and doing. In a game individuals are thinking, considering, acting and doing almost at the same time. They frequently go through the cycle: what is my decision and how will I act and vice versa: what did I do and is this what I want to do? And why do I want to do this? During the game, but surely during the debriefing these are impactful questions and learning points. The Kolb learning cycle (1991) explains the learning steps: (1) concrete experience (2) observations and reflections (3) formation of concepts and practice theory and (4) acting and testing in new situations.

This cycle is deliberately used in designing simulation game runs following these four steps. A game run is a series of learning cycles.

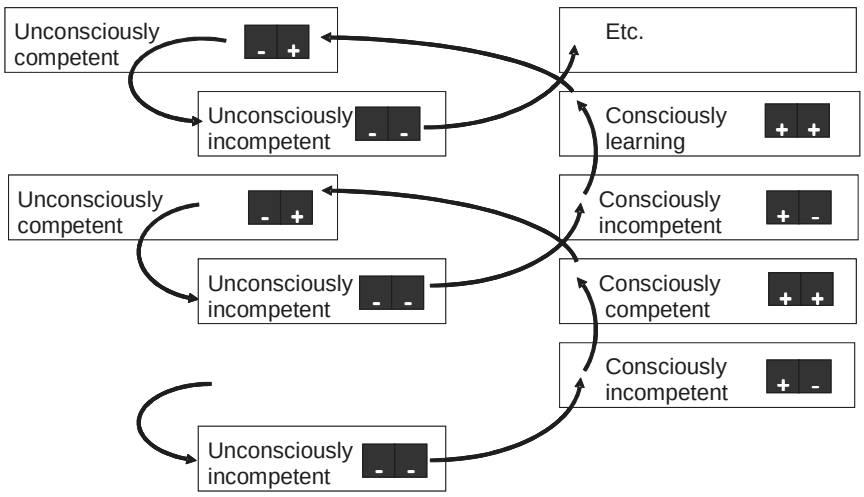
Figure 1. The Kolb learning cycle



Consciously incompetent: motivation to change and learn

Hersey and Blanchard (1988) distinguish two key elements in the way people learn and change: competence and consciousness. Competence is the extent to which people are able to carry out tasks independently and to feel confident about doing so (task maturity). Consciousness is the extent to which people are aware of their (in-) competencies. These two key elements can be distinguished, but they influence one another. Four combinations of the two elements are possible: these determine four learning (change) stages.

Figure 2. Four stages of (in-)competence



In playing a simulation game, people can come to realize that they have not (yet) mastered certain skills or that there are tasks that they are unable to do. That might be on the individual level, but this

might also be at the group level: “we, as a group, are not able to solve this problem”, or “…….to communicate effectively” or “…. to think differently about who we are and what we do”. This state of being consciously incompetent make individuals and groups aware of their incompetencies and motivate them to do something about it: to learn, to ask for help, to ask for training, to be coached, etc. Simulation games are a way to evolve from unconsciously incompetent (where one does not see his incompetencies) via consciously incompetent to the two ‘higher’ forms of task maturity (see Figure 2).

Sense making, common language and verbalization

What individuals and groups do in a game is very practical, tangible, concrete, observable and measurable. The use of paraphernalia, the visibility of the behaviour, the explicitness of decisions and actions, the feedback through indicators and the visibility of results and effects, make it possible to see and follow what is happening and to discuss and learn from common experiences. Individuals and groups make sense while experiencing, acting, observing and learning in the simulation game. They can say: “Oh, is this what you mean by……...?” or “Is this your understanding of……?”. Or they do something and see something happening which they did not expect. Or encounter an unpleasant reaction from another player. They develop meanings and make sense while doing, acting, thinking and learning (Weick, 1969, 1995). They are also in the process of developing collective meanings. They get common understanding of words, concepts, thoughts. The simulation game makes mental models explicit and makes it possible to discuss them.
Verbalization is an important aspect of this process: it is putting your thoughts, concepts, mental models into words and sentences. The words convey the meanings to others and capture what is happening in the minds of the participants. Participants can create new words, new meanings, new sense while playing a simulation game.
At the end of a game they might have developed new common language, new jargon and new meanings.

Shock, emotions and experimenting

Simulation games are rich experiences in the sense that they elicit, release and use personal and emotional elements of learning (Lane, 1995; Breuer, 2007). Events and experiences might become dramatic: people feel upset, are blocked, shaken or feel ashamed. Human reactions, interactions and emotions are part of the play. Every person has a fundamental need to make sense of the events in his life by making up stories about what has happened in the past, what is happening now and what might happen in the future (Breuer, 2007). These (re-)constructions are based on fragments of actual events or memories, but also on what other people convey as their experience and more important on what a person transfers to his imagination as fact or fiction. Shocks, emotions, perplexities strengthen these processes and speed them up. Meadows (1989) says: “Conducting a game is an interesting combination of theatre, system science, didactics and social psychology counselling”. The fact that gaming experiences are often closely linked with emotions might explain the impact: players do not forget it and remember it vividly.
Simulation games form a safe environment for experimenting with new behaviour, with new ways of doing. You can explore new ways of thinking and doing and experience reactions, emotions and possible shocks. I always encourage participants to do it in another way today, because in the simulation game we want to learn and we learn the most of this when we encounter the unexpected.

Dilemmas and windows and mirrors

Technically, an articulated dilemma consists of two contradictory statements, each of which is defendable. Dilemmas can create a dynamic of splitting. But one can also learn to cope with dilemmas (Hoebeke, 2004). Simulation games can be very helpful in seeing dilemmas and in trying to cope with them. In the simulation game one has to take action and is forced to chose between alternatives. But at the same time one can think and consider the alternatives, see advantages and disadvantages of the alternatives and experience the consequences and effects of the chosen action.
Mirrors and windows are two generic approaches to change (De Caluwé and Vermaak, 2003). Mirrors are methods that allow you to look at yourself, often through the eyes of others. Examples are: giving and receiving feedback; working with benchmarks; coaching, intervision, surveys, introspection. Windows refer to new horizons in order to see that things can be done in another way or can be explained differently. Examples are: looking at role models; off-site-visits; good practices; training or clinics. These two approaches can be applied in simulation games. The objective can be to show

participants what they are doing and how they are doing it in order to give them insight in and awareness about their individual or collective behaviour. Then they can decide to do something about it or not. Or the objective can be to give participants a new perspective and bring them in a new situation and to experiment with alternative ways of doing. So they can experience this new situation or behaviour.

Collective learning in functional groups

Gaming has become famous in relation to group dynamics, development of teams or groups and learning in teams or groups. It has been used for increasing group effectiveness. Usually the communication patterns, ways of decision making and power differences are subject of observation and discussion. Each participant in the game or debriefing can intervene on (one of) these aspects, but there might be a trainer, supervisor, consultant or game operator that takes this task.
Collective learning and developing collective competencies can make groups and organizations viable and capable to adapt to new circumstances, develop new competencies in thinking and doing and to be able to innovate.
This is the most effective in working with functional groups: that are groups that work together in real life settings. They can bring in their learning objectives and needs of their working life in the game run, they develop, while playing and learning, new ways of cooperating and they can take the learnings to the real life environment after the game run.

In this section I have described six groups of arguments from the change literature and my experience that explain the powerful substance and effects of simulation games. These arguments are rather generic: they apply to different simulation games and applications of it.
In the next part I will describe a specific application of simulation games aimed at corporate culture change. First there will be a short summary of the literature on corporate culture change. Then I will come with an extensive example and research.

2. Corporate Culture Change

Corporate culture is: the basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously and define in a basic taken-for-granted fashion an organization's view of itself and its environment (Johnson and Scholes, 2002). The manifestations of cultures in organizations include formal and informal practices, cultural forms (such as rituals, stories, jargon, humor and physical arrangements), and content themes. Interpretations of these cultural manifestations vary. The pattern or configuration of interpretations (underlying a matrix of cultural manifestations) constitutes culture (Martin, 1992).
Changing the corporate culture is complicated because cultures have tremendous inertia and change very slowly. The causes of change are often indirect, incremental and unplanned. Changing the culture is a process of shaping the learning as an organization adapts (Denison, 1990). Johnson and Scholes (2002) suggest the following means:

- Changing organizational routines by acting, education and communication
- Using symbols and rituals
- Build powerful advocacy within the organization
- Communicating the change through different types of media
- Build on a good momentum and a good timing
- Use visible short-term wins.

Denison (1990) underlines the importance of the involvement from as much as possible people, the need to develop a thorough understanding of the values and norms that (will) make up the core of the organization, the ability to learn and to adapt and the creation of a strong mission that forces people to monitor their current behaviour against a preferred future state. Gratton (2000) has found that change processes in which behaviour is an important aspect have a 'human clock'. They develop rather slowly, starting with managers, who themselves search for sense-making, and who themselves learn about the new thinking and doing, and who have to gain credibility and authenticity in the eyes of others. Then this process develops deeper in the organization and then new values and attitudes come to live. Experience builds mental (or cognitive) models that help people to make sense of their situation (Johnson and Scholes, 2002).

I translated these insights on culture and corporate culture change in a concrete and practical culture intervention in a large insurance company using a simulation game as a core element in a broader greenprint intervention. I also used the insights on organizational change that I described in section 1.

3. An example of an intervention: 22 design parameters.

The insurance company we talk about here had embarked on a route from an organization with predominantly hierarchical and bureaucratic characteristics to a delayered, output-oriented, customer driven organization, based on teamwork. The change programme had three major phases, which we have labelled 'blueprint', 'redprint' and 'greenprint' (De Caluwé, 1997).
After the blueprint (the redesigning of the organization and all operations) and the redprint (the staffing of the new organization, including slimming down) had been completed, an extensive and complex intervention was designed to influence the behaviour, attitude and culture of the staff and organization (all employees) in the desired direction. The important changes are: working in teams; emphasis on collaboration; output-steering; collective responsibility in teams; team leader as 'playing captain'.

This third phase we called: greenprint.
A greenprint is the integral, consistent, feasible and relevant plan for an intervention in an organization, aimed at the actual implementation of the objectives of a large-scale innovation. Integral means that all steps and elements have been thought through in advance. Consistent means that all the elements support the same set of objectives. Feasible means that it meets the preconditions of workability. Relevant means that it makes a demonstrable contribution to the objectives (Geurts et al, 2000).
The greenprint was designed using the summary of ideas that are described above. It can best be described as a set of interrelated decisions on 22 parameters detailed in five categories: the content of the change (3.1); the structure of the intervention (3.2); the actors in the intervention (3.3.); making meaning (3.4) and preconditions (3.5) (De Caluwé, 1997). These are the 22 design decisions.

3.1 With respect to the content of the change effort
- How much depth and effectiveness are required? A choice was made for a strong emphasis on increasing awareness and creating the feeling of becoming 'consciously incompetent'. The focus was not on acquiring new skills or cognitions.
- A tailor-made simulation game, a microcosm of the desired organization, was chosen as tool for dialogue and training. The simulation game should function as a 'mirror' (How are we doing?) and as a 'window' (What alternative ways are there of doing things?).
- All staff members (from the Board to the security staff) were to be involved in the same simulation game, so that a company-wide collective experience was created. The objectives and debriefing sometimes varied slightly between groups.
- The characteristics of the simulation game were such that, depending on the entry level and the capacities of the players, the assignments could be made more or less complex within the same framework.

3.2 With respect to the structure of the intervention
- A choice was made to start the intervention very shortly after the new teams and groups had been put together. At that point, the interrelationships in the teams had not yet been determined and were open to influence.
- Over a period of about four months all groups (about 140) did the two-and-a-half day training course. A conscious choice was made to run up to 10 courses in parallel at the same time.
- Prior to the training course, extensive information, both oral and written, was provided and communication took place with everyone, particularly management.
- The groups attended the training course from the top down as a cascade. First the top managers, then other managers, team leaders and teams.
- Among others, via carefully staged plenary meetings, the start of the intervention was turned into a psychological turning point, a 'rite of passage': the new organization is (now) going to work.

3.3 With respect to the actors
- All staff, so also the supporting functions, participated in all activities - because everyone has to learn the new organizational behaviour, albeit from different perspectives.
- The training groups were functionally put together, i.e. you participated in your 'family group', so that what you learnt will sink in better.

- The team leaders were given extra training to prepare their team for the simulation game.
- The commitment of the managers was assured: through doing the training course themselves; by opening and closing their own staff's training course; and by participating as co-trainer (20 out of the 70 newly appointed managers did this).
- The training courses were run by an external trainer and one internal manager. The former had the important task of loosening up the group and questioning the things that were taken for granted; the latter focused on the integration and implementation. So, the external trainer supported the 'mirror' function of the game, the internal trainer fostered the 'window' function.

3.4 With respect to imparting meaning

- The relocation of 1,200 bureaus was seized upon as a good opportunity. The relocation took place simultaneously with the introduction of the new organization and the training courses.
- A choice was made to use a single name and metaphor for the program, the game and the underlying framework, and to design a single, appropriate symbol.
- Mystique was consciously created - among other ways in the form of: 'if you haven't done the simulation game then you don't know what the new company is like.'
- An underlying conceptual model and written materials, consistent with the objectives, supported the program.
- Heroes and anti-heroes were created ('This is how we do things (now)', and "We don't do it like that (any more)').

3.5 With respect to preconditions

- In an intake session all the participants were (also) able to input their personal learning needs and questions, and as much account as possible was taken of their wishes.
- After three months there was a follow-up. The team's plan of approach, made on the training course, was discussed and evaluated.
- In the training sessions, in the periods between intake, training course and follow-up and in the whole change program, feedback loops were made to continually follow the process and provide progress reports.

This section described the intervention as we executed it. We were in the lucky circumstances that we could do evaluative work during the intervention, which we will summarize in the next section.

4. The evaluation study

In the evaluation study (De Caluwé, 1997), the following sources and methods were used:

- documents (presentations, minutes of meetings, etc.) from various stages in the change process were analyzed
- a (short) questionnaire was designed, with statements about the content of the innovation. This questionnaire was completed by participants at five points in time: during the intake (zero line), after the training sessions, during the follow-up (after 3 months), after one year and after eighteen months
- the trainers drew up a short report on each training session. They answered a number of questions. These reports were then analyzed
- in-depth interviews took place afterwards, with 22 internal trainers (managers) and 10 external trainers. The content of these interviews was also analyzed.

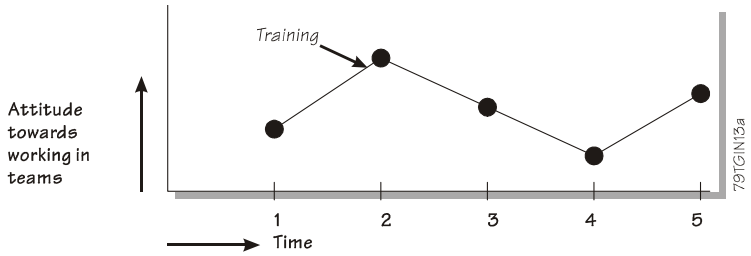
After the initial results were known, further analyses took place. Teams showing exceptionally positive or negative scores on the questionnaire data were analyzed in depth, to discover explanations for their deviant scores (see section 4.2).

The results can be categorized into four groups: 1) effects of the intervention; 2) explanations for the differences in effects; 3) effective elements of the intervention and 4) other effects.

4.1 Effects of the intervention

The analysis of the questionnaire data over the five measuring points produced a surprising curve. In the short term, there were very positive effects, which largely subsided (after one year) but subsequently tended to become positive again (see Figure 3).

Figure 3. Learning curve based on five measuring points



We have labeled this graph 'the learning curve'. It is also found in many other fields where people have to learn and change.
We can characterize the green print as an intervention which 'de-freezes' the participants, and helps them to explore the new situation. The training sessions result in a feeling of optimism and confidence. Of course, the game is designed for that purpose. The experimental learning in the game helps the participants to give meaning to vague, multi-interpretable and intriguing concepts, such as the ones that were used in the company to describe the organization of the future. The game makes it possible for each team to discover what 'teamwork' really means for its specific operational tasks.
However, when the actual team work starts in the everyday work processes in the new organization, people discover that keeping the teamwork going and performing one's own role in the work processes is much more complicated, frustrating and fatiguing than in the relatively simple and well supported environment of the game.

Everybody in the company had to go through this (re-) discovery phase, and had to struggle their way through the first months after the training sessions. The old Latin proverb *Luctor et Emergo* (I struggle and re-emerge), describes this phase very well. The clear dip in the curve of Figure 3 reflects this phase of struggle.
Our data show that the green print has had a strong (positive) influence on knowing what the change involves, and accepting the need for change. The green print led to a heightened awareness of what still needed to be learnt (consciously incompetent) and to a reduction in resistance to the change.

The learning curve, as it has been found in this study, displays surprisingly strong similarities to the dynamics in effects found in the many empirical studies on short-term psychotherapy treatments. It appears that there is nearly always a certain relapse after an (initially successful) short-term therapy. The recovery which follows this relapse is the result of the attempts, by trial and error, of the patient to put into practice what has been learnt in therapy. Relapse appears to be more a process than an event, and is an inextricable part of the learning process. Improvement observed at a follow-up is less marked than at the end of the initial treatment (Shapiro and Shapiro, 1982). Of course, strategies have been developed to avoid relapse. For example, 'booster sessions' (pep talk sessions or follow-ups) postpone the relapse but do not reduce it (Whisman, 1990). The same learning curve also occurs when acquiring psycho-motoric skills, such as learning to play tennis, learning to drive or ski; they also happen in grief processes (see eg Kübler-Ross, 1981) or innovation processes (see eg Geschka, 1978). All these findings are very similar with the results of our study. The (relatively) brief intervention (the training course using the simulation game) is initially highly effective. There is a relapse (at the fourth measurement) and then an improvement once again at the fifth measurement.
Our data and the parallel findings in other areas, suggest to us that cultural change processes have to be understood as learning processes. They develop over a period of about two years and follow the learning curve described. From the perspective of the learning individual this process has two phases. The first phase includes the training and the period of relapse. The second phase starts when recovery occurs and the change becomes internalized by the individual. We explain it as follows: in the first

phase, the learning is done via imitating, trying, and experimenting. In this phase the learner tries to copy the new rules of conduct he picks up from the trainer or training situation. However, this behaviour or conduct is not yet part and parcel of his personal style or repertoire. He also has to master the art of using the new skills in situations he did not experience in the training. He has to discover how the new behaviour can be made a part of his personal way of structuring, enjoying and improving his life at the office. Positive experiences, good and continuous feedback from the team and its management and the skill and 'guts' to accept mistakes and relapses are the learning principles that guide this phase of 'recovery'.

4.2 Explaining differences in effects

We were able to compare the effect-scores (the changes in the answers to the attitude questionnaire) of all the teams. Although the average dynamics are well described by the curve in Figure 3, there were also significant differences between the teams.
For example, some teams showed no positive jump in the scores after the training, while others were changing far more positively than the average teams. In some cases the 'dip' after three months did not appear, while in others the drop in motivation was more extreme than the average.
We tried to understand these differences. For this purpose, we collected data on many different team characteristics, eg, age composition, gender composition, line of business, trainer's scores on the team's resistance to change, style differences in teamwork as observed by the trainers, trainee- or trainer-team characteristics, etc.
We used two methods to understand the influence of team characteristics on the effect-variable: cross-sectional analysis on all the team data, and in-depth qualitative analysis of deviant cases. Here we will summarize the insights from this analysis.

No characteristics were found which could significantly explain all the differences in effects. However, from the analysis a list emerged of favourable and unfavourable indicators for learning and change by means of a simulation game.

Favourable indicators for learning and change are: people are motivated, keen to learn and favourably disposed towards change; the importance of the change is understood and the training environment is perceived as realistic.

Unfavourable indicators are: little motivation for, and little acceptance of the change; a feeling of loss of status due to the change; no active leadership or a not accepted leadership; hidden agendas or conflicts; uncertainty about the future; disenchantment in practice; or overestimating one's own abilities.

Also from this part of the study, it emerges clearly that the main function of the game is to increase awareness. People start to give meaning to the change, and positive motivation for the change is created. However, if subsequently a person is not stimulated over and over again to overcome new obstacles, this can cause a serious backlash. Active leadership, good communication and facilitating continuous feedback are important for implementation and internalization.

4.3 Effective elements of the intervention

As stated before, everybody in the whole organization has been exposed to the same 'green print'. In experimental terms this means that *everyone* received the same stimulus. We were not in the position to vary the stimulus over the different teams. The stimulus was a composition of 22 different design decisions (see section 3), and thus the question arose as to which of the elements of the green print were most relevant for creating the effects we have found. Since an experimental design was not considered in the interest of the client, we had to rely on expert judgment to assess, in retrospect, what the strong and weak points of the green print were. For this we used the in-depth interviews with trainers (internal and external) and managers.
The most effective elements of the green print that came out of this analysis are:
- the training sessions, particularly the use of a tailor-made simulation game;
- the preparatory meeting prior to the training course, at which participants could input their own learning objectives;

- the training course being opened and closed by the team's own manager;
- making use of combinations of internal and external trainers;
- making use of a simple conceptual model to visualize the change;
- starting the change simultaneously with the physical relocation of the staff's workstations;
- working with symbols;
- the participants working towards their own plan of approach;
- using feedback-loops;
- working with (training) groups from functional contexts;
- the speed at which the intervention occurred.

With regard to the gaming/simulation the most positive working components are:
- a strong similarity to reality, in other words, a high simulation character
- the repeated experience: going through the Kolb learning cycle four or five times during the game
- arousing realistic expectations; no promise that the game would solve all problems
- offering learning themes whereby participants observe and learn in a structured way.

Finally, we want to mention two points which proved to be important and strong points of this process of change.
First, the (increasing) credibility of the change initiators (eg, the board, the managers, and especially the managers who acted as trainers) and the adequately exemplary behaviour shown by them. In addition, there was strong congruence between the views of the top management; the green print designers; the trainers; the expectations of the participants (at any rate, those expectations became increasingly realistic) regarding the nature of the change; the objectives; and the way in which it was tackled.
Second, it was very important that the intended change was given high priority over a number of years: there were no simultaneous and 'competing' changes at the same time. This particular change was given the time to become 'completed' and internalized.

It is striking, furthermore, that the models, the tools and the jargon from the simulation game have had a lot of impact on reality. The models and the tasks which the design team developed to make a simulated 'Company-of-the-future', in other words, the gaming-elements used to create the non-existing Top Insurances Inc., became adopted by the teams to structure their work in the real life of the company.
Obviously the structure and 'birds-eye-view' of this game-material were not only helpful to govern teamwork in the simulated world, but the teams also used this equipment to run their business later on. As game designers, we accepted this phenomenon as a not intended but positive indicator of success.

4.4 Other effects

To conclude the article, we quote some key players in the change program. The chairman of the board states: "That score could be improved on, of course, but what you must realize, is that we are talking about a huge culture turnaround, which simply takes time. People have to start working in a different way and taking on more personal responsibility." The manager of Social Affairs comments: "The training sessions were the initial impetus, the undercoat; painting on the top coat must take place over the next few years. Management plays an important role in this. We feel the operation as a whole has been a complete success, but the follow up is a massive undertaking".

The total reorganization has borne fruit. Turnover and profit are increasing. Was the chairman of the Board ever scared about the risks? "If nothing had been done, the company would have been in big trouble. There's not much point in thinking about the risks. If you can only swim one kilometer and you fall overboard five kilometers from the coast, you don't think to yourself: I'll only manage one kilometer. We made a very conscious choice to do everything in one go and not by halves, otherwise you lose support. And communication is a key theme running through this project. In this type of process you have to keep communicating about what you are doing so that the top floor doesn't lose touch with the people on the workfloor".

5. Some conclusions for the future of simulation games

To conclude this chapter I want to draw five conclusions which are important for the future development of simulation games. They are based on the theoretical and practical insights that were described here.

First: those who are involved in designing and using simulation games need to develop more knowledge and insights on there methods and the variances in these methods. This book is a fine example of what I mean. There is on the one hand much tacit knowledge in the heads of practitioners, facilitators, users and buyers. This knowledge needs to become accessible through writings and other ways of making knowledge explicit. Of course theorizing and researching are valuable additions to this. Dick Duke said once about simulation games: "It works. That is all we know". I think that by now, we can do much better and we should.

Another conclusion has to do with the marketing of simulation games. We can do much better in getting the message to a broad public of possible clients and principals. We have many good examples in which simulation games contributed to effective change. The knowledge that we have can be utilised better and in a broader field. A problem here is that the larger public associates simulation games with entertainment and non-serious use of simulation games. This leads to unintended images and bad understanding of what simulation games can do. So we need to write not only scientific publications, but we need to enter the world of managers, business and other important decision makers in the public and private field.

Simulation gaming is an activity that is done by a diverse group of practitioners, scientists, scholars, facilitators, change agents, consultants and many more with a diverse variety of backgrounds. There is not one discipline that can explain for the effects or the active substances of simulation games (De Caluwé, Hofstede & Peters, 2007). This diverse group meets now and then and it results in interesting new insights and experiments. We should do it more often and more intensively: it is an interesting experiment of collaboration in itself to try to overcome the boundaries of the different scientific disciplines and the boundaries of theory and practice. The meeting of the various perspectives and their paradigms and mental maps is very difficult, but it will be rewarding at the end. The active substance of simulation games can contribute to this effort. The method itself will contribute to the better understanding of the method.

A fourth conclusion is part of the third one. As I have shown in this chapter we can bring the field much further in combining the simulation knowledge and methods with those from social sciences and interventions. I made a clear link on the topic of corporate culture change. But it is easy to think of combining the knowledge of simulation games with the knowledge and methods of for instance narratives (Breuer, 2007), open space (Vliex, 2007), learning organizations (Senge, 1990), role play (De Laat & Geurts, 2007), appreciative inquiry (Cooperrider et al, 2003) and many others. There is a fruitful combination possible between changing and intervening knowledge and techniques and simulation gaming.

A final conclusion has to do with the time and era that we live in. We live in a time where changes are a normal part of life and where speeding up things and accelerate are desired and necessary. Usually a simulation game accelerates time and events. It produces time pressure to evoke decisions. But, in order to learn, an important aspect is to *slow down*. This is important to be able to reflect and to see things from a distance and to see patterns. During reflection time and debriefing, participants should not produce a new conversation as they are accustomed in real life or during the unfolding of the events of the simulation game. They have to remind themselves that learning new insights and skills does require that you have to slow down (see also Argyris, 2004). The active facilitator can play an important role in this process. In a time where the clock is so important, we must realize ourselves that the only way to learn, change and reflect is to slow down and stand back in order to understand what is happening.

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