The system dynamics of group facilitation and communication: Principles and problems

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Abstract

In this paper a theory of group facilitation and communication is introduced, based on the work of Gregory Bateson and the Palo Alto schools he founded and inspired. This theory permits an analysis of group facilitation processes on the basis of the same principles that inform system dynamic model building and simulation. Through this theory existing lists of appropriate facilitation skills and attitudes are elaborated and augmented. This leads to greater insight into the quality of the process of group model building and possible ways to evaluate that process. Ultimately, the growth and proliferation of system dynamic models and simulations depends on improvement of both process and content of modeling and simulation.

Introduction

In the past two decades system dynamics models and simulations increasingly have found their way from the minds and computers of system analysts to the minds and meetings of managers (Lars and Lomi 1999). Important in this transition has been the involvement of management in the model-building process, i.e., in group model building (e.g., Vennix 1996; Andersen and Richardson 1997). It has been acknowledged that, if management is to be enabled to tackle "messy problems" (Vennix 1999) and to be involved in learning that is deep (Bianchi 2002), double-loop (Isaacs and Senge 1992; Sterman 1994) and generative (Senge 1990), the process of group model building is at least as important as the content of the models and simulations involved.

The importance of process vis-à-vis content, however, is not generally reflected in the evaluations of system dynamics simulations and interventions. Many evaluations have concentrated on model / simulator characteristics, subject characteristics and situational characteristics, assessing their impact on performance indicators (e.g., Grössler 2004; Keating *et al*. 1999; Rouwette *et al*. 2004). A few evaluations have concentrated on both process and content. Here it was found that consensus and commitment to a group decision were positively influenced by the process and quality of the communication within the group, which in its turn was positively related to the skills of the group facilitator (e.g., Akkermans 2001; Akkermans and Vennix 1997; Rouwette 2003).

In spite of the paucity of evaluations, various authors have emphasized the crucial importance of group facilitation in the process of group model building. The group facilitator acts as a role model for the group, helping the group to solve its problems with the appropriate facilitating behaviors, attitudes and skills (Isaacs and Senge 1992; Vennix 1996, 1999). Vennix in

particular has outlined a list of attitudes and skills considered important for effective group facilitation (Vennix 1996, pp.146ff). In this paper I will develop this line of arguments further by outlining a theory of group facilitation and communication on the basis of system dynamics principles. The rationale is that the credibility and effectiveness of system dynamics interventions will improve in the eyes of client groups and organizations, if principles and methods of group facilitation are fully congruent with principles and methods of model building and simulation.

The theory of group facilitation and communication in this paper is based on the work of the British anthropologist Gregory Bateson and the so-called Palo Alto schools in communication and psychotherapy he founded and inspired (other influential members included Jay Haley, Paul Watzlawick and Don Jackson). Although generally neglected by system dynamics scholars, Bateson and the Palo Alto scholars were the first to apply principles of system dynamics to communication processes.[1]

In this paper I will first outline the system dynamic principles of communication on the basis of the Palo Alto work. Second, with this theory I will specify various problems of communication and possible ways to react to these. Finally, some conclusions are drawn.

Throughout the paper I will use a concrete example to illustrate principles and problems. It is adapted from a workshop memo, reported in Akkermans and Vennix (1997, p.8):

At the end of a learning-wheel workshop the group facilitator poses a question to the participants about the organizational platform for the model they have been developing.
One of the participants, a bank manager, replies: "Your original advice was mainly economical; it did not contain these kinds of considerations."
The facilitator looks surprised at the manager, bends over to look at the thick portfolio with research data in front of him and lifts it partially as if to say "And what about this here, then?"

Principles of dynamics communication systems

In their analysis of communication processes, the Palo Alto scientists primarily focused on relationships, not on individuals. In this respect they differed from mainstream social and cognitive psychology, to which they ascribed a "traditionally… strong trend toward a monadic view of man and, consequently,… strong trend toward a reification of what now reveal themselves more and more as complex patterns of relationships and interaction" (Watzlawick *et al.* 1967, p. 22). Because of its exclusive focus on human interaction, the Palo Alto perspective has expanded existing psychological approaches in five ways:

(1) The Palo Alto scientists expressed the determining role of interaction in the axiom of the 'impossibility of not communicating'. All behavior (verbal and non-verbal) occurring between persons who are conscious of each other's presence has behavioral effects, whether intended or not. Such effects have interpersonal message value, and thus are communicative in nature. Since it is impossible for humans not to behave in one way or another, it follows that in interaction it is impossible not to communicate (Bateson 1963; Watzlawick *et al.* 1967). In the example, all the bodily movements, words and facial expressions the bank manager and facilitator display have an effect on the other.

(2) The Palo Alto scientists offered a refined analysis of verbal behavior by distinguishing between different levels and modes of communication. The levels refer to the content (or report) and relationship (or command) aspects of communication. Any piece of communication not only conveys information, but also (and at the same time) imposes behavior. The command aspect serves as a communication about the report, referring to the nature of the relationship between the communicating persons as the 'definition of the relation'. The command

aspect thus classifies the content aspect and is therefore a metacommunication. The modes of communication are distinguished in verbal and nonverbal. Levels and modes tend to be correlated, because verbal communication often coincides with object information (content level), while nonverbal communication tells the outside observer much about the definition(s) of the relationship (Haley 1963; Watzlawick *et al.* 1967). In the example, the facilitator's lifting of the portfolio conveys a powerful nonverbal message of disagreement to the bank manager.

(3) The Palo Alto scientists analyzed human interaction at a higher level than that of single behavior events. They regard interaction as a continuous exchange of messages, on which a certain degree of punctuation may be imposed. This punctuation serves to organize the behaviors of the communicating persons in patterns. These patterns are defined by the participants as certain characteristics of their relationship (e.g., dominance, dependency, withdrawal), depending upon their interpretation of events (Bateson 1972; Bateson and Jackson 1968; Watzlawick *et al.* 1967). In the example, the bank manager could view his interaction with the facilitator as vigilant and watchful, whereas the facilitator could view this interaction as inquisitive and distrustful.

(4) The Palo Alto scientists distinguished between symmetrical and complementary interaction. Such interaction depends upon whether the communicants exchange identical or different types of behavior in attempts to respectively minimize or maximize inequality between them. Symmetrical interaction often takes a competitive, 'me-too' form, in which both participants try to outperform one another in some area of achievement and thus attempt to control the definition of their relationship. Complementary interaction, on the other hand, refers to a situation in which one participant occupies a primary position, while the other plays a secondary role. The relationship is interlocking or mutually fitting, to the extent that one communicant does not impose complementarity on the other, but that both persons behave in ways that fit their definitions of the relationship (Bateson 1958; Haley 1963; Watzlawick *et al.* 1967). Normally client-consultant relations are of a complementary nature. However, in the example a few more rounds of similar verbal-nonverbal exchanges between the facilitator and the bank manager could lead to an increasingly symmetrical interaction, in which both communicants are in fact saying "You should accept my definition of our relationship!"

(5) The Palo Alto scientists emphasized that continuous interaction systems (like family relations, friendships, and daily work relations) are characterized by relationship rules, or stabilized definitions of the relation. These rules may regard aspects like symmetry, complementarity, punctuation and others, and necessarily appear in any relationship of some endurance (Haley 1963; Watzlawick *et al.* 1967). In the example, when the facilitator and the bank manager would have to work together for a longer period of time and the nature of their communication would not change, then their interaction could become governed by rules like 'we only agree to disagree' or 'we watch each other very closely.'

On the basis of these five points the Palo Alto scientists regarded communication as a *system*, in which "two or more communicants [are] in the process of, or at the level of, defining the nature of their relationship" (Watzlawick *et al.* 1967, p.121). Such systems are fundamentally open in nature, showing properties like feedback (in which a chain of events leads back to itself, providing circularity of cause and effect), equifinality (in which results or end-states are not determined by initial conditions, but by variable processes within the system's parameters), and Gestalt (following which the whole is more or different than the mere sum of the parts constituting the whole).

Problems of dynamic communication systems

Problems in communication arise from miscommunication. Consider two speakers *A* and *B*, of whom one *A* emits message *a*, to which the other *B* responds with message *b*. In this case

message *a* provides the context for message *b*, whereby the context is determined by the nature of the relationship between *A* and *B*. Miscommunication occurs when response *b* is incongruent with the context in which message *a* has been emitted. Response *b* can be said to have two levels of meaning, one outside the context of the communication sequence (i.e., by its pure content) and one inside that context (i.e., in the relationship between *A* and *B*). Since both levels may be considered correct without changing the verbal content of message b, receiver *A* is left uncertain and confused about the 'real' nature of message *b* (Sluzki *et al* 1977). On the basis of clinical evidence, the Palo Alto scientists distinguished three forms of miscommunication (Sluzki *et al* 1977; Watzlawick 1971, 1976):

(1) Tangentialization. Here response *b* follows message *a* in such a way that it disregards both the content of *a* and the intent of *A*, but acknowledges *A*'s intention to communicate. In the example, this would occur when the bank manager would react as follows:

> *[…] The facilitator looks surprised at the manager, bends over to look at the thick portfolio with research data in front of him and lifts it partially as if to say "And what about this here, then?"*
> *The bank manager, looking out of the window: "You could make a nice fire with that pile of paper."*

(2) Disqualification. Here four sub forms may be distinguished:

(2a) Evasion. Here response *b* follows message *a* in such a way that *b* switches to a new subject of discussion without marking this switch and without *a* having clearly ended the previous subject of discussion. In the example, this would occur when the bank manager would react as follows:

> *[…] The facilitator looks surprised at the manager, bends over to look at the thick portfolio with research data in front of him and lifts it partially as if to say "And what about this here, then?"*
> *The bank manager, absent mindedly checking his watch: "Isn't it time for lunch yet?"*

(2b) Sleight-of-hand. Here response *b* follows message *a* in such a way that *b* switches to a new subject of discussion by marking this switch as an answer, without *a* having clearly ended the previous subject of discussion. In the example, this would occur when the bank manager would react as follows:

> *[…] The facilitator looks surprised at the manager, bends over to look at the thick portfolio with research data in front of him and lifts it partially as if to say "And what about this here, then?"*
> *The bank manager: "Yes, you have been working hard on these data."*

(2c) Status disqualification. Here response *b* follows message *a* in such a way that *b* changes the subject of discussion from the content of *a* to the person of *A*, which switch is marked by an implicit derogatory reference to *A*'s status. In the example, this would occur when the bank manager would react as follows:

> *[…] The facilitator looks surprised at the manager, bends over to look at the thick portfolio with research data in front of him and lifts it partially as if to say "And what about this here, then?"*
> *The bank manager, smiling politely: "I just wondered how much experience you have with workshops like these."*

(2d) Redundant question. Here response *b* follows message *a* in such a way that *b* partly or fully rephrases *a* as a question, implicitly implying doubt or disagreement with *a*. In the example, this would occur when the bank manager would react as follows:

> *[...] The facilitator looks surprised at the manager, bends over to look at the thick portfolio with research data in front of him and lifts it partially as if to say "And what about this here, then?"*
> *The bank manager, smiling friendly: "What do these data tell us, then?"*

(3) Mystification. Here response *b* follows message *a* in such a way that *b* implies that *A* should abandon his/her own interpretation of the context of their relationship in favor of *B*'s interpretation of that context.[2] In the example, this would occur when the bank manager would react as follows:

> *[...] The facilitator looks surprised at the manager, bends over to look at the thick portfolio with research data in front of him and lifts it partially as if to say "And what about this here, then?"*
> *The bank manager retorts angrily: "Let me explain to you what these data mean!!"*

The reaction of *A* to *B*'s tangential, disqualifying or mystifying response to *A*'s initial message determines whether their miscommunication is being resolved, continued or even worsened. *A*'s reaction may take four different forms (Sluzki *et al* 1977):

(1) *A* explicitly comments on the incongruence in *B*'s response. This metacommunication requires that *A* becomes aware of *B*'s double message, which awareness often starts with physical symptoms (headache, stomach pain) and feelings of psychic tension and uneasiness. It further requires that *A* adequately communicates these feelings to *B*, in such a way that *B* may become aware of the incongruent nature of his/her message. Under these requirements, metacommunication may resolve the miscommunication and lead to increasing communicational clarity. In the example, the facilitator would first have to explicate the meaning of his nonverbal lifting behavior and then communicate his feelings about the manager's response to the manager.

(2) *A* evades *B*'s incongruent response by withdrawing from the situation, by remaining silent, or by returning to an earlier point in the communication sequence with *B*. In this way *A* avoids both metacommunication and acceptance of *B*'s double message. In the example, the facilitator would return to the bank manager's first reply and start a new communication sequence from there.

(3) *A* accepts *B*'s incongruent response by reacting to one level of meaning and neglecting the other level, without marking this redefinition of the situation. In this way the miscommunication between *A* and *B* is continued until one of them would resort to metacommunication or evasion. In the example, the facilitator would respond only to the verbal content of the bank manager's reply and disregard his nonverbal signs (tone of voice, facial expression, looking away, etc.).

(4) *A* counters *B*'s incongruent message with another incongruent message, for example with self-disqualification or a disqualification of *B*. In this way the miscommunication between *A* and *B* swiftly deteriorates, leading to increasingly confusing and bizarre forms of interaction. In the example, the facilitator would respond to the bank manager in an equally tangential, disqualifying or mystifying way, making their mutual communication increasingly ineffective and incomprehensible for the other workshop participants.

Discussion and conclusions

In this paper a theory of group facilitation and communication has been introduced, based on the work of Bateson and the Palo Alto schools. This theory permits an analysis of group facilitation processes on the basis of the same principles that inform system dynamic model building and simulation. The principles and problems, thus developed, elaborate and augment Vennix' (1996, pp.146ff) list of appropriate facilitation attitudes and skills in three aspects:

(1) The 'impossibility of not communicating' makes all verbal and nonverbal behaviors, emitted in the presence of others, significant. Nonverbal signs are as (probably even more) important for the determination of the relationship with the other as the verbal words that are spoken. This implies that, strictly speaking, neutrality in group facilitation is not possible. The facilitator's opinion will always 'leak through' in subtle nonverbal signs (a small hand gesture, the wink of an eye) that will be consciously or unconsciously recorded by the participants. It is preferable that the facilitator communicates candidly about his/her own preferences, in such a way that participants will feel free to question and discuss these preferences.

(2) Miscommunication primarily arises from communication that is incongruent in the relational context of the communicating persons. It is the task of the group facilitator to detect and correct such incongruent communication, both in his/her own communication and in that of participants. This requires self-awareness and self-knowledge on the part of the facilitator, enabling him/her to experience swiftly the physical and psychic tensions that incongruent communication tends to cause. Incongruent communication is most effectively solved by metacommunication, which requires that the facilitator is capable of expressing his/her emotional feelings in a non-threatening way, inviting the incongruently communicating person to recognize the incongruence and reflect on it.

(3) The integrity and authenticity of the group facilitator is highly dependent upon the congruence in his/her verbal and verbal-nonverbal communication. Incongruently communicating facilitators may not 'walk their talk' or may, through subtle nonverbal signs, display disinterest in the group model process or contempt for (one or more of) the group participants, in spite of their verbal assurances on the contrary. Participants quickly sense the lack of veracity of the facilitator's attempts to direct the meetings and react accordingly. They will come to distrust the intentions of the facilitator. They are likely to comply only superficially with his/her directions and mentally dissociate themselves from the group model process.

On a closing note: for system dynamic models and simulations to grow and proliferate, the development of accurate complex and dynamic models is important. However, equally important may be the further development of system dynamic group facilitation skills and attitudes, since the quality of personal interaction may be as decisive for the success of simulations as the quality of the models. Future evaluations of system dynamic interventions and group model building should reflect this dual emphasis on process and content.

Notes

[1] To be fair, Richardson (1991, p.86) has recognized Bateson as a "transitional figure who wholeheartedly embraced the new cybernetic notions in the social sciences", and he has discussed Bateson's concept of schismogenesis as an important forerunner of the feedback concept. Yet Bateson may be credited for much more. He was largely responsible for bringing cybernetic theory to the realm of interpersonal relations. By his concept of double bind he made 'self-contradictory message loops' an important part of dyadic and group system dynamics (see further Visser 2003ab, 2006).

² Normally, humans rely on their own senses to develop their interpretations of reality. However, humans in situations of high dependence or severe social pressure of other persons may be faced with an untenable situation, in which they are forced to choose between their own perceptions and interpretations and their relations to those other persons. The effects of these forced choice situations have been assessed in the experiments on 'obedience to authority' (Milgram 1974) and 'line judgments' (Asch 1952, 1955; see further Watzlawick 1976).

References

Akkermans HA. 2001. Renga: a systems approach to facilitating inter-organizational network development. *System Dynamics Review* **17**: 179-193

Akkermans HA, Vennix JAM. 1997. Clients' opinions on group model-building: an exploratory study. *System Dynamics Review* **13**: 3-31

Andersen DF, Richardson GP. 1997. Scripts for group model building. *System Dynamics Review* **13**: 107-130

Asch SE. 1952. *Social Psychology*. Prentice-Hall: New York

Asch SE. 1955. Opinions and social pressure. *Scientific American* **193**(5): 31-35

Bateson G. 1958. *Naven* (2nd ed.). Stanford University Press: Stanford, CA

Bateson G. 1963. Exchange of information about patterns of human behavior. In *Information Storage and Neural Control*, WS Fields, W Abbott, eds. 173-186. Thomas Books: Springfield, IL

Bateson G. 1972. *Steps to an Ecology of Mind*. Chandler: San Francisco

Bateson G, Jackson DD. 1968. Some varieties of pathogenic organization. In *Communication, Family and Marriage*, DD Jackson, ed. 200-216. Science and Behavior Books: Palo Alto, CA

Bianchi C. 2002. Introducing SD modeling into planning and control systems to manage SME's growth: A learning oriented perspective. *System Dynamics Review* **18**: 315-338

Grössler A. 2004. Don't let history repeat itself – methodological issues concerning the use of simulators in teaching and experimentation. *System Dynamics Review* **20**: 263-274

Haley J. 1963. *Strategies of Psychotherapy*. Grune & Stratton: New York

Isaacs WN, Senge PM. 1992. Overcoming limits to learning in computer-based learning environments. *European Journal of Operational Research* **59**: 183-196

Keating E, Oliva R, Repenning N, Rockart S, Sterman JD. 1999. Overcoming the improvement paradox. *European Management Journal* **17**: 120-134

Larsen E, Lomi A. 1999. System dynamics and the 'new technology' for organizational decisions: from mapping and simulation to learning and understanding. *European Management Journal* **17**: 117-119

Milgram S. 1974. *Obedience to Authority: An Experimental View*. Harper & Row: New York

Richardson GP. 1991. *Feedback Thought in Social Science and Systems Theory*. University of Pennsylvania Press: Philadelphia

Rouwette EAJA, Grössler A, Vennix JAM. 2004. Exploring influencing factors on rationality: a literature review of dynamic decision-making studies in system dynamics. *Systems Research and Behavioral Science* **21**: 351-370

Rouwette EAJA. 2003. *Group Model Building as Mutual Persuasion*. Wolf Legal Publishers: Nijmegen (Ph.D. dissertation, Radboud University Nijmegen))

Senge PM. 1990. *The Fifth Discipline: The Art & Practice of the Learning Organization*. Doubleday Currency: New York

Sluzki CE, Beavin J, Tarnopolsky A, Veron E. 1977. Transactional disqualification: research on the double bind. In *The Interactional View: Studies at the Mental Research Institute, Palo Alto, 1965-1974*, P Watzlawick, JH Weakland, eds. 208-228. Norton: New York

Sterman JD. 1994. Learning in and about complex systems. *System Dynamics Review* **10**: 291-330

Vennix JAM. 1996. *Group Model Building: Facilitating Team Learning Using System Dynamics*. Wiley: Chicester

Vennix JAM. 1999. Group model building: tackling messy problems. *System Dynamics Review* **15**: 379-401

Visser M. 2003a. Gregory Bateson on deutero-learning and double bind: a brief conceptual history. *Journal of the History of the Behavioral Sciences* **39**: 269-278

Visser M. 2003b. Communicational Gestalten: a theoretical analysis. *Gestalt Theory* **25**: 299-306

Visser M. 2006. Deutero-learning in organizations: a review and a reformulation. *Academy of Management Review*, forthcoming

Watzlawick P. 1971. Patterns of psychotic communication. In *Problems of Psychosis: International Colloquium on Psychosis*, P Doucet, C Laurin, eds. 44-53. Excerpta Medica: Amsterdam

Watzlawick P. 1976. *How Real is Real: Confusion, Disinformation, Communication*. Random House: New York,

Watzlawick P, Bavelas JB, Jackson DD. 1967. *Pragmatics of Human Communication: A Study of Interactional Patterns, Pathologies and Paradoxes*. Norton: New York