

Brain-friendly ways to share information and run meetings

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First rule: Every day has a „silent time“, 60 minutes: No meetings, no communication at all, no telephone, no email, no text message, no internet. The institution is quiet, everybody works by himself / herself and thinks! A source of creativity and innovation. But it must be the same hour for everybody in the institution!

Second rule: A meeting never lasts longer than 90 minutes. We humans are characterized by a „basic rest activity cycle“ (BRAC). The span of concentration and attention has reached its limit after one and a half hour (roughly), and we need a break, we have to recharge, and we do something differently afterwards. A pause prevents erasing knowledge in the neural systems of our brain of what has been done before. (Usually there are also metabolic needs to have breaks in meetings).

Third rule: We have to appreciate the circadian rhythm that controls all our internal processes, both psychological and biological functions. Everybody is controlled by an internal clock of 24 hours; this is our evolutionary heritage. Thus, meetings too early in the morning, in the middle of the day, or late in the evening, bring participants together who are not at the peak at their performance. (Guests from other countries who suffer time-shifts are not necessarily in an optimal phase of their competence.)

Fourth rule: If a problem causes many meetings, the meetings eventually become more important than the problem.

Fifth rule: Humans are social beings. They have to gather. This innate desire is related to how „human identity“ is constructed: It is the complementarity of personal autonomy and (!) social embedding. We need both. Thus, it is quite natural to have meetings.

What are the specific reasons to meet at the workplace? These are:

Information: Members of an institution inform each other; thus, an equal level of knowledge can be reached. Open questions are addressed.

Transparency: Meetings serve the purpose to create clarity and transparency of certain issues, to prevent or repair conflicts between members of the institution.

Creativity: Meetings are used as a platform to create new insights. They are open with respect to potential results.

Action: Meetings prepare the agenda of an action and provide the opportunity to distribute the responsibilities for the anticipated action.

Bonding: Having coffee or tea together, or going to lunch may create trust and bonding. Building trust between participants is the hidden agenda of any kind of meeting, in particular in teams with different cultural background, different gender or

different age.

Modes of communication in meetings:

Top - down (authoritarian): One person takes the lead, and the other members are in a certain sense only physically present. This style of having a meeting obviously may create frustration in many participants, and a reduction of motivation is the consequence.

Bottom – up (submissive): Participants in a meeting play down their role and thus, responsibility, agreeing to everything and never having the courage to express their own opinion. Anxiety may be the reason for this super-adaptive behavior looking always for harmony.

Rational: Participants in their exchanges are focused on explicit knowledge only which can be clearly expressed, usually verbally. Such analytic meetings are „number-oriented“ with a strong belief that decisions are mainly based on rational conjecture.

Empathic: Participants in such meetings are both rationally oriented and emotionally open. Respectful exchange of ideas, creative listening, humorous interactions are typical for such communications, being successful when the intended goals are actually reached in the time dedicated for a meeting.

All meetings require an agenda, and a good agenda is characterized by a time horizon for TOPs to reach an anticipated goal. Here the „reafference principle“ of the brain applies, and knowledge about temporal perception and time control in humans is helpful.

To reach a decision, five different levels have to be distinguished:

On a strategic level, a goal is defined, a goal that can be reached within an anticipated time window. This requires an external point of view, and frontal areas of the brain play an essential role.

On a tactical level, milestones to reach the goals are represented; tactics have to be adaptive for situational changes.

On an operational level with an even shorter time perspective the different competences of the participants are implemented (like using the internet).

On an integrative level of neuronal processing which last approx. 3 seconds, information is bound together into „windows of presence“ that represent knowledge for a given moment.

On the lowest level of only some tens of milliseconds the content of consciousness is created, and this content is selected by attention mechanisms of the brain.

Only if all these levels are functional, good decisions can be made in a meeting. Without a goal that can be reached a meeting does not make sense. If tactics are not flexible, goals cannot be reached. Without professional competence on the operational level, both strategy and tactics are in vain. If the brain cannot integrate knowledge and cannot define content which sometimes happens during fatigue, depression or brain injury, a decision process lacks the basis.

What are typical mistakes we can make during a meeting when we want to come to a

conclusion?

„Monocausality“ which is a disease every human apparently suffers from: This is the strong belief in only one, and really only one cause for anything that may happen; in reality we have to deal usually with multiple causes for an event or a problem to be solved. (This is a consequence of a misunderstanding of Occam's Razor)

We have a tendency to believe in too simple images. Power point invites us to a pictorial representation of knowledge in a stationary way making us forget the dynamics of processes. Beware of „boxology“. Arrows between boxes usually hide the complexity of a problem.

It is always good to remember the list of Francis Bacon(1620) why we make mistakes: We make mistakes because we are human (this is our evolutionary heritage). We make mistakes because of our personal imprinting and our individual history and prejudices. We make mistakes because of language, as there is a mismatch between thought and word; this is of particular relevance in meetings with representatives of different language backgrounds. And we make mistakes because we carry our theories along, usually in an implicit way, not even knowing that we have a theory.

And there are other traps:

We make us dependent on the opinion of others because of we are looking for harmony.

We are insensitive to harvest serendipity; i.e. we are often blind to pick up new constellations in a creative way which have not been planned.

We may confuse speed with intelligence. Somebody who reacts fast and speaks with high velocity is not necessarily right. Often we have to slow down following the advice of the physicist Werner Heisenberg: Let it think in your brain and trust the creation of implicit knowledge in your brain which escapes the control of rational conjecture but still is useful.

There are certain human weaknesses we also have to deal with, both personally and in an institution: Procrastination, self-imposed time-pressure, not being prepared for a meeting and stealing time of others, intolerance towards the opinions of others, the trap of close or very distant relationships of members of a meeting (like erotic attraction or hate).

What is the cure? Knowing about ourselves. There is an old saying from antiquity (from the Roman poet Horatius) which became the most important sentence of the „enlightenment“: „Sapere aude – Dare to know“. Dare to know about yourself, about the others. Knowledge is already the main therapy.

A few more facts and statements derived from brain science:

A decision is always one (!) decision. There is no multitasking. Multitasking is an illusion.

For good decisions the complementarity of explicit and implicit reasoning is necessary. (Tacitus 2000 years ago wrote: *Deliberant dum fingere nesciunt, constituunt dum errare non possunt.* – They talk to each other while they cannot simulate, they decide when they cannot make a mistake.)

Any functional institution is characterized by the complementarity of hierarchy and heterarchy. There must be a hierarchical structures because of responsibilities; but on the level of knowledge creation all are equal, and with this principle the space of creativity is significantly expanded.

We have to distinguish three modes of knowledge: Explicit (word oriented) knowledge, implicit / intuitive (emotionally open), procedural knowledge, pictorial (topological, metaphorical) knowledge. All these knowledge systems should interconnect.

Dealing with other people we should be aware of the fact that all humans are characterized by five basic components (the big 5): openness, extraversion, emotional stability, aggressiveness, diligence. What is necessary for a good meeting: To be open what others are saying, to be prepared (diligence), to be not too aggressive but determined, to show emotional stability, and to be not too introverted.

And ten elements represent the pyramid of decisions:
equilibrium
emotional embedding, emergent creativity
easy access, effortless processing, efficient action
evolutionary heritage, esthetic evaluation, ethic principles, economic understanding

Some statements at the end:

Confucius: Tell me, and I will forget it. Show me, and I will perhaps remember it. Let me do it, and I will know it.

The Scottish philosopher David Hume: Reason is and ought only to be the slave of passions, and can never pretend to any other office than to serve and to obey them.

The Harvard psychologist Edwin Boring: Problems cannot be solved until they are discovered.

Delors' Principle in meetings of the European Union: To stop the watch for a given time, and everything that is said does not go into the protocol. This opens one's mind.

Bismarck's principle: Confuse everybody by opaque language, and then come with a simple solution.

Personal experience being a manager in a national research center: If somebody wants to convince you with a weak proposal, let him speak forever, and don't interrupt him.

Where should meetings be held and what should be the meeting environment? Sometimes meetings could be held like the Nobel laureate David Katz suggested: Nobody is allowed to sit down. This mode speeds up meetings.

But if one sits down? Sufficient light is absolutely necessary. Meeting in darkness should be forbidden. One reason is that our internal clock is controlled by light, and that we fall into depression if the Nucleus suprachiasmaticus of the hypothalamus does not get sufficient light. It just so happens that most of us are light-deprived.

Interestingly, participants in meetings usually show oral desires; one has to eat and one should drink. The proper food for meetings still has to be developed.

Meeting rooms should be inviting not being simply containers for people who come together for some time. A meeting room should have some aesthetic quality and the environment should invite to feel comfortable and being a place for creativity. The seating arrangement should be such that one is not too close to each other respecting private space, but the distance to others should not be too far; too far a distance does not allow the development of an empathic relation between participants. And this is essential for a successful meeting.

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