

# TOWARDS A DIFFERENTIAL PERSPECTIVE ON ORGANIZATIONAL LEARNING AND KNOWLEDGE – ‘FIGHT OR FLIGHT’ OR ‘FLOW’?

*Associate professor Dr. Harald Ness.*

*North Trondelag University College. Program for Organizational and Management Studies*

*Mail address: [harald.ness@hint.no](mailto:harald.ness@hint.no)*

## *Abstract*

Mainstream scientific approach to organizational learning (OL) and knowledge (OK) focuses principally on the social aspects of learning and knowledge. Berends & Lammers (2006) explore the dynamics of OL, listing different structured process models that try to captivate the phases of activities that represent organizational learning;

*The adaptive model*

*The experiential learning circle*

*The social learning circle cycle*

*The organizational learning cycle*

*The 4-I model of organizational learning*

In their article, organizational learning is defined as enhancing the organizations capabilities to act in relation to future change (Berends & Lammers, 2006). In our opinion, definitions of organizational learning and knowledge (OLK) lack a necessary theoretical coupling between the individual, group and organizational aspects of learning. The fact that any kind of learning has an individual basis seems to be ignored or (at best) is taken for granted in the existing theoretical frameworks related to OLK. The individual is treated as an item – two individuals as two items, and so forth. The intention of this essay is to construct a theoretical base for OLK which includes empirical findings and theoretical constructions on the individual, group and organizational level. Since learning, emotions and feelings are fundamental individual processes – it is also vital to get an understanding of the impact of individual emotions and feelings in organizational learning.

## *Differential perspectives on organizational learning and knowledge*

### *Learning - Synapses in action*

A definition of learning should take into consideration that any learning has an individual base. Following this postulate we argue that a definition of learning on the group and organizational level should be synchronized with definitions on the individual level. One common definition of learning on the individual level goes like this: "Learning is the acquisition and development of memories and behaviors, including skills, knowledge, understanding, values, and wisdom. It is the goal of education and the product of experience" ([en.wikipedia.org/wiki/Learning](http://en.wikipedia.org/wiki/Learning)). This definition sorts out learning as a phenomenon that is the product of experience, changes caused by some kind of intoxication or maturation processes does not qualify. The definition is not normative like the definition presented by Berends & Lammers (2006).

One focal point for a differential perspective on OLK is that every learning experience has a neuro-psychological base in each individual. Any learning experience has its contact points between nerve cells or 'neurons', i.e. the 'synapses' in the individual's body. Without changes in the individuals' synapses - no learning will occur.

"Learning occurs as a result of changing the effectiveness of synapses so that their influence on other neurons also changes ...[...]... Learning is a function of the effectiveness of synapses to propagate signals and initiate new signals along connecting neurons. Learning and experience change the structure of the neural networks" (Hinton, 1992).

New synapses grow and develop to create neural networks which incorporate new and old experiences of learning. The creation of neural networks is a function of 'synapse modification' which may be conceptualized as a kind of 'neuroplasticity'. This capacity of the brain is typically related to the different sleeping phases and dreaming. At the synapse level, nerve impulses are converted to chemical processes which excite or inhibit activity in the connecting neuron depending on their strength which determines the molecular events in the synapse: Sufficient emotional intensity to ensure the dissemination of 'transmitter substance' into the synaptic clefts and the connecting neurons is vital. Events or actions that lack the necessary emotional intensity doesn't influence the individual on the synaptic level – and will

be hard to learn from. Small amounts of molecular activity in the synapses, means that lots of repetitions have to be performed if learning shall take place.

Learning means that new synapses can be created, and established synapses can be oppressed, depending on the strength of excitation that follows the perception of new events or actions as seen from the individual point of view. Experiences that are connected to pain or fear of pain (physiological or psychological) are learned most effectively. One experience with fire is enough for the child to become aware of the pain associated with fire. “Burnt child fears the fire” is an old catchphrase. Emotional sensations or feelings connected to sexual experiences and intense moments of joy or happiness carry almost the same excitation as do pain itself or the fear of pain (Stokes & Whiteside 1984).

The effectiveness of synapses is modified or altered by experience. The modifying characteristics of the synapse are dependent both to the intensity of the perceived experience as well as to training and the amount of repetitions. The influence of neurons on each other depend on stimuli intensity – that is; to establish new synaptic connections between the neurons in the cortex of the brain there must be a definite level of exciting energy or accompanying emotions or feelings. Usually we think of these phenomena as relevance and importance, seen from the individual’s point of view. When new synaptic connections are established these changes are brought about in the structure of existing nerve networks and nerve circuits and learning results. Once a synaptic connection is established it does not vanish or go away. It is not possible to *de-learn*, it is only possible to *new-learn*. That is; the organism creates new competing synaptic connections, which over time can moderate the effect of earlier established synaptic network. And of course there are differences among people – some individuals have the capacity to learn everything and anything in a fast tempo – while others have to work hard to learn at all.

Even though the synapses are concentrated in the cortex, learning also takes place in the rest of the body. Learning to ride a bike or playing the piano involves synaptic connections both in the cortex and in the whole body – “learning by doing” as Dewey put it. Some activities that are easily learned in childhood – like riding a bike – become real barriers if they are postponed to adulthood. On the other hand side – learning that is associated with strong emotions and feelings seem to be very hard to get rid of. Experiences may be fused with intense emotional excitation like fright. Such experiences may cripple the individual’s future behavior

alternatives – because the feelings that were linked to the initial experience may be reactivated under circumstances that bear a resemblance to the initial situation.

### *Differential psychology.*

Keeping the synapse mechanisms in mind we now turn to another differential perspective – the arguments from differential psychology. In 1949 Anne Anastasi published the book *Differential Psychology. Individual and Group Differences in Behavior* together with John P. Foley. The practical application of this knowledge was among other things – psychological testing of cognitive capabilities. The differences in cognitive capabilities in humans are pervasive and vast, due to both genetic and cultural impact, ranging from the genius to the imbecile. The testing tradition in American Psychology has for a long time had its parallel in the Scandinavian and other European countries, and is used in school psychology, psychiatry, enrollment in the army and among recruitment consultant.

During the last decades there has been a shift from a general model of intelligence – to multi factor models. Howard Gardner's theory of multiple intelligences (1983) reframes the traditional concept of intelligence, claiming that each individual has a complex combination of different intellectual capabilities – ranging from capabilities in language, arithmetic's, practical abilities, physical abilities, emotional sensitivity and so forth. He argues that there is evidence to make a distinction between eight different "intelligences". Gardner's multiple intelligence theory has for some time been fused with theories on learning strategies, which – generally speaking – argues that each individual has his or hers learning strategy dependent to the setup of intellectual capabilities. Even if some of these logics have been criticized lately – the evidence of differences in individual learning strategies as well as differences in intellectual capabilities is well documented. Our argument on this point is that the multiplicity of intellectual capabilities and learning strategies should play a vital part in organizational learning and knowledge. The individual is unique – not only in appearance – cognitive abilities and learning history differs in the same uniqueness, as do emotional awareness and responsiveness, education and training.

Summing up so far indicates that organizational learning and knowledge has to focus on 1) the differences in the individuals' capacity for learning, and 2) the individuals' emotional

readiness for learning, and 3) bearing in mind that each individual has his or hers strategy for learning. Keeping the initial definition of learning and knowledge in mind, we argue that the differences among individuals are the key organizational capability to act constructively in relation to future change.

*The troublesome 'fight or flight' reaction in organizations.*

Animals, when confronting a situation that is perceived as stressful, will behave in a relatively predictable way, described by Cannon (1915, 1932) as a default set of reactions directed toward a 'fight or flight' position following the initial 'arousal' response. Humans share this reaction set with animals to a large extent, as the survival of the organism depends on the ability of the individual to make correct evaluations of environmental conditions at any time.

Man's evolutionary and phylogenetic development is closely related to the coping capabilities in and among individuals, in groups and tribes related to the environmental challenges that were present in ancient times. In our modern 'organized' world we seem to have forgotten this fact – even though we use tranquillizing medicines for billions per year (or may be just because of that?). When early human hunters were out in the wilderness and suddenly met eye to eye with a sabre tiger, they had to know when to fight – or fly. The decision had to be taken in a moment – and it would be hazardous if it was a wrong one. In our modern society there are no saber tigers, but the default fight or flight reactions still prevail as a *modus operandi* – given that an individual or group meet with a apparent stressor. The stressors in modern society are more subtle than the saber tigers, but the fight or flight reaction set still prevails.

As argued above, emotions and feelings enhance the speed of the synapse modification, making the amount of transmitter substance that is released into the synapse cleft to increase, and thereby facilitating learning. On the other hand side, some learning experiences are characterized by fusions between stressors, situational elements, and a crippling emotional tenseness, which may be triggered unintentionally as soon as you get involved in situations with some kind of similarity to the initial situation. In that case the sabre tiger has got a grip on your mind – since it is you who are enacting the stressor – not by choice or will – but on an

endocrinal level. The fusion of emotions, personal relations, and environmental factors may be neurotic or not. Nevertheless it will influence on situations in a relatively predictable way.

To cope with a stressor is a question about health or sickness. If you don't have the capabilities needed to eliminate the stressor, the situation may become critical. You get exhausted if your reservoir of coping energy is consumed more rapidly than it is filled up. When there is a lack of coping energy – the body will give some kind of alert signals – headache, increase in muscle tone, pain in joints and muscles, and so on. If the signals are ignored over a longer time period – the risk of an early death increases.

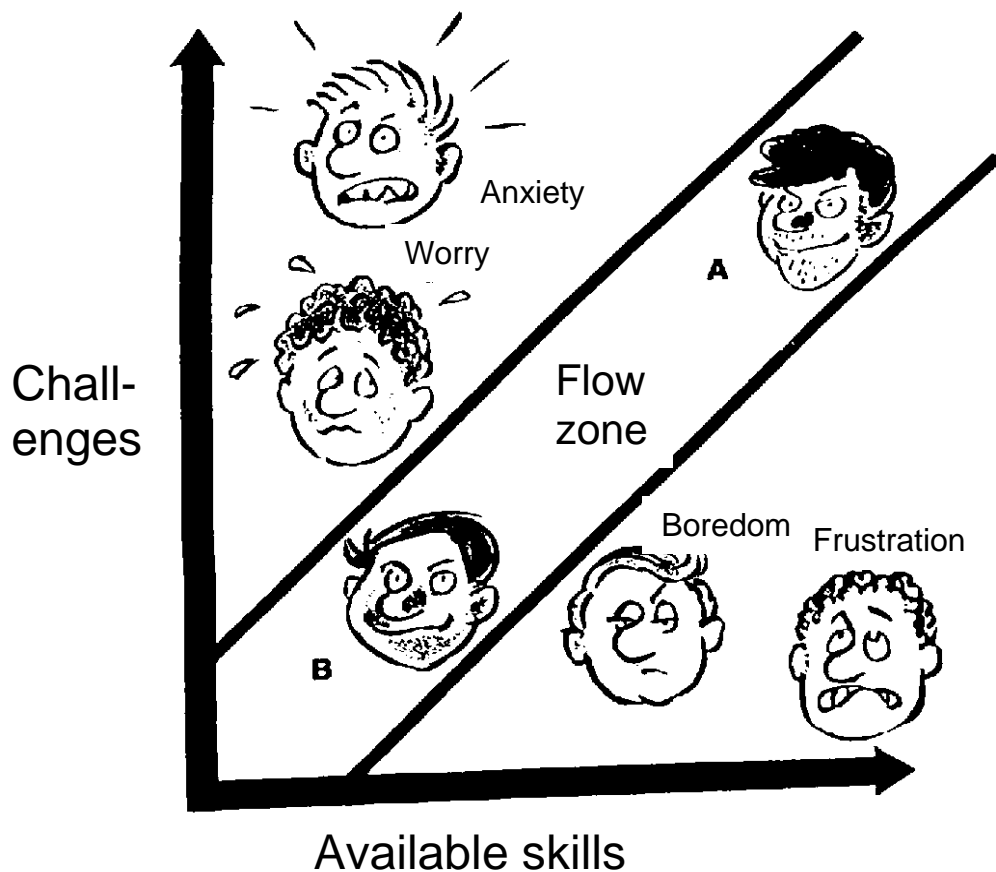
Organizational change - planned or unpredicted – inevitably causes stress in individuals and groups. We don't need to ask for the stressors; change involves stressors of multiple kinds to different individuals. Work-related sickness in modern society is alarmingly high, and it is often related to change-over, down-sizing, efficiency improvement and so on. Often work or task related stressors get mixed up with some kind of personal or power relations – and the fight or flight reaction set is activated at the speed of an eye twinkle. We can suppose that the 'fight' response is the leading impulse in every healthy individual, but each person has his own way of processing the impulses accompanied by the reactions set into acceptable social behaviour. Traditional (hierarchical) organization theory asserts that leader has the right (and obligation) to make decisions and the subordinates should adapt, even if the leader is wrong. In knowledge intensive organization this principle is at best problematic, since expert knowledge is distributed among subordinates, and one cannot suppose that the leaders alone have the right answers to future change.

Is it possible to manage organizational change in productive ways, taking the differential perspective outlined above into consideration?

### *The theory of flow.*

In 1975, Mihaly Csikszentmihalyi together with his wife published their theory of 'flow'. Originally designed to visualize the training of disabled children, its first application in Norway was related to sports – more exactly soccer football (Andreassen & Wadel 1982).

Flow occurs when the demands of a task match but do not surpass the skill available to complete that task. Almost any activity can produce flow if these elements are present, says Csikszentmihalyi, and making them a constant part of your life can enhance your work, personal relationships and leisure time, is his credo.



Source: Andreassen & Wadel (1982)

This perceptual set, or 'flow zone' represents a class of information that both elicits and is the object of attentional focus. The normative implications vary from high to low as seen from the individual's point of view. The experience of flow seems to scale or increase as the significance of the behavior increases. Both members of soccer teams and individual ski-jumpers speak about flow, when everything goes their way. More generally, flow experiences are reported by individuals who are absorbed in demanding tasks that have critical implications. The illustration above indicates that it is possible to be in the flow zone when skills and challenges match – regardless of the level of skills and challenges. You don't have

to be an expert surgeon or elite ski-jumper to experience flow. Another aspect of experienced flow is that preparing activities for the actual activity also seem to elicit the same feeling of flow, like skiing (Csikszentmihalyi, 1990, Jackson & Csikszentmihalyi, 1999).

### *How do individuals enter the flow zone?*

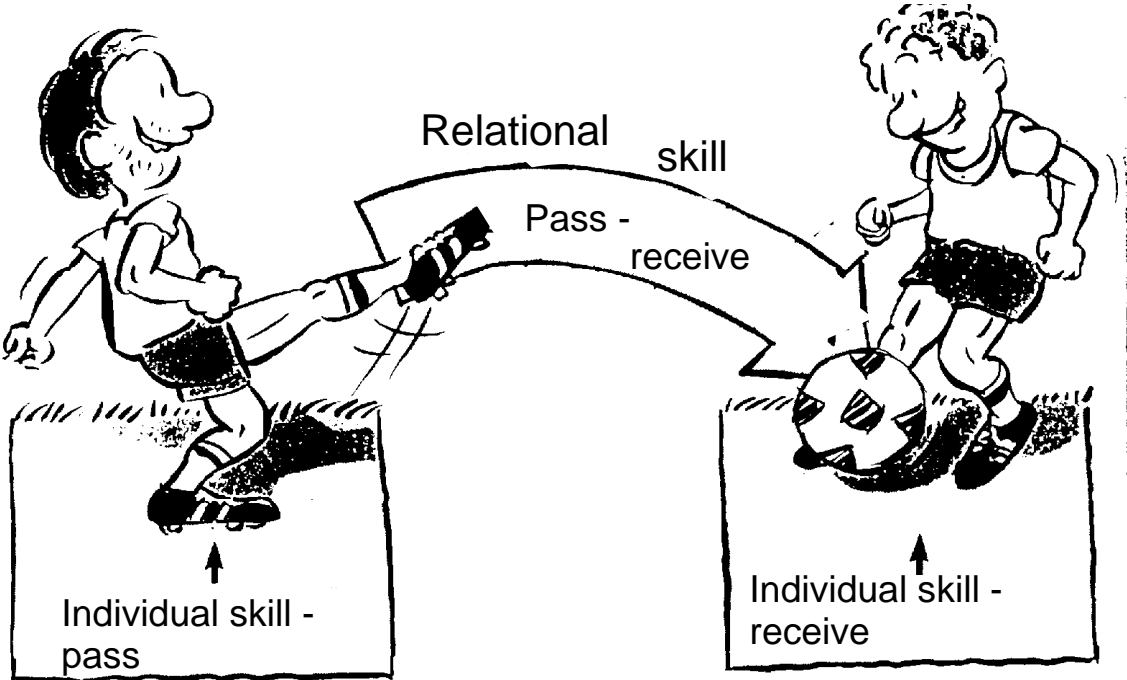
In sports, the participants always prepare themselves before they engage in competition. The time spent in training sessions far exceeds the actual activity. As reported by Csikszentmihalyi, the same feeling of flow accompanies the preparing activity in almost the same way as do the producing activity itself. The implicit assumption following this observation might be that there is a corollary and perhaps causal relationship between focused attention and flow, indicating that experiences of flow are learned – that is; the synapse modification mechanism is at work. This being the case, we can suppose that various levels of attention and emotional states can contribute to synapse modification, and learning. In other words – if you want to be good in something – you must like it, and you have to practice. As far as we know there is no short way to enter the flow zone – you have to exercise – and you have to focus your attention on what you do. The ‘feeling of flow’ will increase the learning effect dramatically.

Looking at group flow, we must add a distinction between individual skills and relational skills. In soccer football centering between two or more players consists of two fundamental skills: pass – and receive the ball. Each individual skill must be exercised beyond the just acceptable level. The relational skill; pass – and receive; assumes that the two players have to exercise together to the extent that they can foresee each other’s reactions – in relation to all the other players in the field. They have to be very observant on each others responses and they have to keep in mind that my success depends on the success of the other. In working teams and organizations the experience of flow can be conceptualized in a similar way. First of all; the individual skills and competencies ought to be complementary, and secondly; team mates should cooperate in a relational way – knowing that making each other good is the beginning of success for both.



When groups enter the flow-zone in some activities, and feel the engagement in challenging tasks, it will enhance their coping capabilities not only to those specific activities, but on a general base, both as individuals and as a team. They learn that knowing and feeling are essential parts of flow. Raising challenges means that your skills have to improve – no sabre tiger here – you just have to learn new skills or trim your already well functioning capabilities.

*Relational skills and flow.*



Source: Andreassen & Wadel, 1982.

*Organizational learning and Flow.*

If relational skills are the clue flow element in groups or teams, then organizational flow may be conceptualized as the organizations ability to establish routines and structures that make individual and team (group) flow possible related to organizational output or results. It is possible to conceptualize organizational flow and organizational learning in a way that incorporates both the individual and relational elements. An organization who wants to enter the flow zone has to practice both on the individual and relational level – much like a choir.

Each singer has to practice – and each voice part has to practice together before the whole choir is able to perform in a way that listeners like to hear. Focused attention will be the result and goal for singers, conductor and listeners. Transformed into organizational logics it can be formulated like this; workers and managers will focus their attention on their mutual interests in the quality of the end product, as do the customer.

Like all behavioral responses, flow is programmed by neural processes. The differential perspective assumes that different individuals learn in different ways, and enter the flow zone at different stages. A differentiated learning and training program will therefore be needed to make it possible for individuals, groups and organizations to enter the flow zone.

### *Final remarks.*

All behavior is naturally personified, and how we feel while performing an action is modulated by the contingency between action and outcome. How we feel not only alters how we perform and judge a specific action, but the feeling may be altered by the results of that action itself. In practical terms, we cannot determine the effectiveness of a work activity, unless we can imagine the influence of possible situational outcomes, which in turn can modulate both a cognitive shift as well as its neurological and somatic connections. Thus, motivation is far more than a function of a rational computation of motivating events. Motivation is closely connected to emotions and feelings, like a non-conscious perception of the possible outcomes of an activity: Will it ‘turn me on’? From a differential perspective the question should be reformulated: Who will be turned on by which activity?

## References

- Anastasi, Anne & Foley, John P. (1949). *Differential psychology. Individual and group differences in behavior*. MacMillan. New York.
- Berends, H. & Lammers, I. (2006). Contrasting Dynamics of Organizational learning. A Process Theory Perspective. Paper submitted to the *OLKC Conference*, University of Warwick, Coventry.
- Cannon, Walter B. (1915). *Bodily Changes in Pain, Hunger, Fear and Rage: An Account of Recent Researches into the Function of Emotional Excitement*. Appleton, New York.
- Cannon, Walter B. (1932). *The Wisdom of the Body*. W. W. Norton, New York.
- Csikszentmihalyi, Mihaly (1975). *Beyond Boredom and Anxiety*, Jossey Bass.
- Csikszentmihalyi, Mihaly (1990). *Flow, The Psychology of Optimal Experience*. Harper Collins.
- Jackson, S., Csikszentmihalyi, M. (1999). Flow in Sports. The keys to optimal experiences and performances. Champaign, Il.: *Human Kinetics*.
- Hinton, G. (1992). How Neural Networks Learn from Experience. *Scientific American*, 267:3, 145.
- Stokes, G. & Whiteside, D. (1984). *Basic One Brain*. Burbank. California. Three in one Concept.