



**Complex Problem Solving:
The process of “action-reflection-action”
and the fears of ridicule, failure, rejection and success**
*This is a synthesis on the results obtained from the research on the
ontology of complex problem solving led by Peter Belohlavek.*

Introduction

In order to apprehend a complex problem and solve it, it is necessary to be able to deal with four central aspects:

- 1) The openness of the boundaries of the problem.
- 2) The conjunction of its components without simplifying disjunctions.
- 3) The biunivocity of its elements
- 4) The inexistence of observers. The individual “managing it” is a part of the problem.

Who approaches complex problems in a natural way?

Childhood lives within a complex world. From birth on, children enter a world where reality exceeds their reasoning capacity and they need to learn in order to survive and grow.

The way they do so is very simple:

- a) They act
- b) They somehow elaborate their actions
- c) They act again based on their elaborations.

This is the natural taxonomy to manage complex problems. Children follow these steps intuitively. Taxonomies are naturally respected by children. If you put skis on small children they just begin with “snow plowing” and not “slaloming”.

What happens with this intuitive way in grown up adults?

Educated adults do not enter a new complex problem based on experiencing it first. Societies, parents and the educational system taught them to approach reality beginning with a rational thinking process. This is functional to everyday operational activities, but is dysfunctional to learning how to manage unknown complex problems.

A complex problem must be approached with an action – reflection – action process, which is absolutely counterintuitive for ordinary adults.



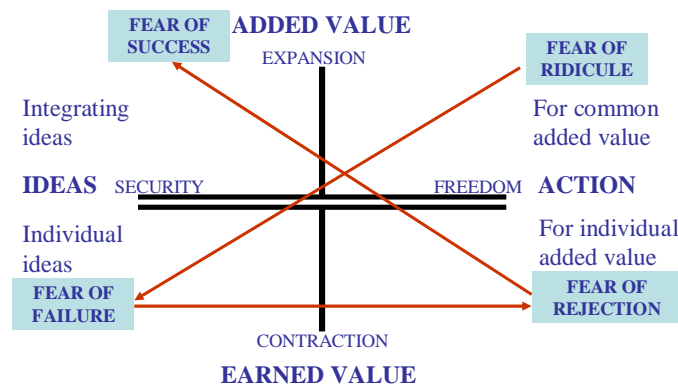
Why is “action-reflection-action” counterintuitive?

In the adaptation process humans have to face four natural fears that inhibit intuition:

- 1) **The fear of ridicule:** A persistent, abnormal, and unwarranted fear of being ridiculed or ridicule. It is the fear that hinders the beginning of any different or new activity.
- 2) **The fear of failure:** Fear of failure is the fear of self-criticism or the fear of being criticized by others. It is the fear of failure that hurts far more than the failure itself. Actually, it is the fear of not being sure what will happen.
- 3) **The fear or rejection:** It is an outcome of low self-esteem. It makes you feel that everyone in this world is superior to you and they can reject and avoid you for some reason or other.
- 4) **The fear of success:** The fear of success is a very unique issue that arises when you are genuinely creating change and moving forward. One of the core fears that arise from change is that success will lead to loneliness.

These fears define the natural taxonomy of fear managing in human adaptive behavior.

Taxonomy of fears in human adaptive behavior



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The fear of ridicule

When entering a new complex problem without having a secure solution, the fear of ridicule is fostered.

In order to avoid the internal or external perception of ridicule, individuals begin to judge the situation and build a mental construction to avoid the sensation of ridicule. As the problem is unknown, they build a fallacious parallel reality.



In this situation the learning process is hindered because the restricted context of the individual's actions is unreal and drives to distorted perceptions.

But these distorted perceptions are within the precepts of the individual and their functionality aims at avoiding the risk of feeling ridicule. Real actions are staggered so the problem is not faced and individuals feel comfortable.

There is no possibility of beginning the learning process of complex problem solving if the first "experiencing" has not been carried out.

Only an extreme need to make things happen, the assumption of the responsibility of doing so and a powerful will permit adults to begin a complex problem solving process.

What is natural in childhood is counterintuitive in adulthood.

The fear of failure

The fear of failure appears after the problem has been experienced and the individual has to find a solution using the power of his/her knowledge and intelligence.

This fear is unavoidable when entering the field of solving a new complex problem. The individual might be more influenced by his/her internal or the external punishment of failure.

The fear of failure inhibits reflection. When being dominated by fear individuals use known secure preconceptual solutions to approach the problem. If they do not fit, they blame the external environment.

This fear appears naturally when beginning a reflection process to find the solution for a complex problem. It is unavoidable. Only the integration of omnipotence to face a new situation, and humbleness to deal with the unknown, permits to overcome this fear.

Egotistic and super egotistic internal or external contexts foster the transformation of this fear in an inferiority complex. Inferiority complexes hinder the management of complex problems.

Fear of rejection

The fear of rejection appears when the pilot tests, implicit in the unicist reflection methodology, are being developed.

The first pilot test, i.e. the non-destructive validation test, makes this fear appear. The fear is that the solution that has been found does not work in an appropriate way. The fear might be internal or external driven. Self perception works as an internal driver



while the value judgment of the context works as an external driver for the fear of rejection.

Individuals who need to be right are unable to develop pilot tests and therefore they are dominated by the fear of rejection. They appear to be dominated by the fear of failure but, as they build a parallel reality to avoid the perception of failure, they are afraid of doing the necessary pilot tests that would contradict them.

The destructive pilot tests that falsify a solution and find the validity limits of knowledge require individuals to have overcome the fear of rejection.

Authoritarian contexts foster the fear of rejection avoiding the need of pilot testing to ensure the validity of the rules defined by the authority. Pilot testing is an extreme proof of humbleness and “democracy” because it equals the objectivity of all opinions.

When a pilot test does not work it is because the reflection process was fallacious. Then the reflection process must begin again or the whole process should be restarted by experiencing the reality again, using the pilot test as an input.

Fear of success

The fear of success is perhaps the most unperceived of all fears. Ordinary people cannot believe that there might be a fear of success. It can be clearly perceived in individual sports observing the way an individual acts when s/he is winning (tennis, golf, swimming, etc).

The fear of success hinders the application of the pilot test to the integrated complex problem that is being solved.

While the fear of success fosters a permanent retesting approach, based on the excuse of the need of more security, the final solution is never implemented.

The fear of success has both internal and external drivers. Internal drivers are given by the uncertainty of “what’s next” when an individual has achieved success, or by an inferiority complex. External drivers depend on the value that success has in a specific environment. In those environments in which success is fostered, the fear is inhibited; in those that foster a surviving attitude the fear of success is promoted.

Conclusion

Complex problem solving requires an action-reflection-action process. This implies the involvement in the problem as a participant. Without this involvement there is no possibility to apprehend the ontological structure of the complex problem.



The learning of complex problem solving is implicitly a complex problem. Therefore the learning process requires the commitment of real problem solving adding value to the individual or organization dealing with the complex problem.

An individual cannot deal with complexity if s/he is not able to overcome the fears that are implicit in a complex problem solving process. The denial of these fears ensures the building of parallel realities and the achievement of dysfunctional results.

Authoritarian environments foster fears to avoid losing control. Individualistic-anarchic environments foster fears to avoid the assumption of responsibilities. That is why complex problem solving and its learning process require a special context to be developed.

Metaphor:

*It is a pity that Albert Einstein
died being a child.*

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