

The systemic approach applied to the educational field contemplates the connection between individuals and context, both the immediate, family, educational, between equals and the wider and more generic, social, political, religious, cultural, etc. taking into account its reciprocal interactions in a constant communication feedback.

This methodology, opposed to the reductionist one, favours an integrating vision of the phenomena capable of circularly relating the parts and of substituting concepts that speak of “summativity” for those that speak of “totality”. This vision, also called ecological, allows to see how the group (family, school, students, etc) does not adapt to a certain environment but that it co-evolves with the environment.

Based on this model the School is defined as an open system composed of human elements that relate between themselves and that have their own characteristics. It is divided into subsystems that as the system are identifiable through the definition of their Limits, Functions, Communication, and Structure (see glossary of terms).

(figure 1)

Symbolic representation

(figure 3)

The system and its environment

The School not only relates “inwards” but it also influences and is influenced by the context or the group of external systems which we name “Suprasystem”.

(figure 2)

It is this global vision that will allow us a better understanding of situations that if analysed individually appear as inexplicable or it will facilitate the adequate design to promote changes.

Characteristics of the system

The postulates described in the General Systems Theory are applicable to the system we are studying:

1.- TOTALITY: even in the smallest group of elements, the dyadic relation, we can say that $1+1=3$. The content of the third element would be defined by the content of the relation that is generated, of the influence of said relation on both, of that relation with the context, of the context on said elements.

This chain of reciprocal influences, that would begin with the relation teacher-student, would extend to: teacher-students, students-teacher, teachers-teachers, students-students, students-family, teachers-family, families-families, inside-suprasystem... and so on until a fabric is formed whose result would be impossible to notice without contemplating it as a whole and in its network.

2.- PROTECTION-GROWTH: the concepts of homeostasis and morphogenesis (stability-change) are like the reins that a system manages to keep its balance and to evolve in time. The success a system has in managing both forces will guarantee its healthy life and will diminish the risk of other dysfunctions appearing (functional system).

Sometimes the schools persist in repeating actions that in the past produced results. As they no longer produce them in the present the more they repeat the action the more dysfunction is produced. As if the horseman would only tighten one bridle to straighten it (dynamics of the dysfunction).

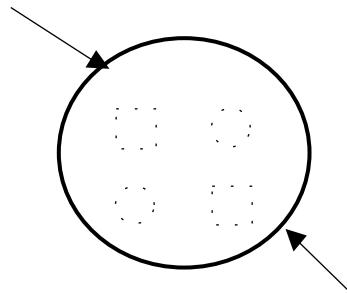
3.- CIRCULAR CAUSALITY: the past is only analysed to detect repetitive interactions (vicious circle, recurrence). From the information obtained it is convenient to design new interactions that modify the present to change the future.

4.- EQUIFINALITY: during this programme we may possibly confirm that every country, every context starts from different situations with their own peculiarities, and nevertheless it is probable that we agree on similar conclusions.

Classification of dysfunctions

The systemic analysis describes two forms of functioning of the groups that, taken to the extreme, generate dysfunctions of several kinds. They are known as **Enmeshed** Systems and **Disengaged** Systems. For this reason when we analyse the type of functioning of a group we direct the movements of change in the opposite direction to where it is: if it is detached we prescribe work that implies fusion and vice versa.

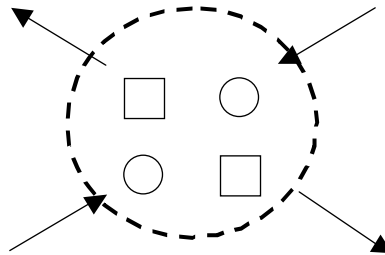
Enmeshed system



Excessively resistant to change, both of people and of input and output of information. Excessive dependence on the components of the team, with a low degree of differentiation amongst them. Rigid organisation. Overloaded with norms. Risk of isolation.

(table II)

Disengaged system



Accepts changes very easily but without “digesting” them. High degree of differentiation of its components but with an anarchic organisation and a lack of minimum norms of functioning. Risk of disintegration.

(table I)

Forms of relation with the environment

(figure 4)

Brief description of the most common dysfunctions

Dyad: Cooperation of two elements of a system to carry out certain types of relational operations due to the incapacity of one of the elements to do them itself (dependence).

Triangulation: Expansion of a dyadic relation, overloaded with conflicts, towards a third party.

Perverse triangle: Coalition of the elements of a system of a different hierarchical level against a third party in which is given the condition that said coalition is denied or there is no consciousness of it.

Rigid triad: an element of the system is used rigidly by two other elements to avoid their mutual conflicts (scapegoat).

Symmetric relation: difficulty to solve the individual differences which produces a relation of endless competition.

Complementary relation: the tendency to position oneself always “below” or “above” in the relational sequences. In the educational context the relation teacher-student is complementary (teacher “above”), but if we invert this position dysfunctions arise.

Content and relation in communication: Any communication sequence can be analysed from two angles: from its content and from the relation between the communicating parties. Both matters do not always correspond. For example, how many times in a couple relation she asks him “Is anything wrong?” and with an expression of enormous annoyance he answers “no”? The content closes the possible ways of advancing in the field of the relation.

In labour contexts these sequences are detected, for example, in the fight for power between two elements of the system (relation) which produces arguments on superficial matters or on problems without solution, however possible this solution may be. They are typical cases where the content endangers the relation. The observer of these sequences of communication will not be able to understand what is happening if he/she does not analyse both points of view.

These possible dysfunctions should be analysed not only in the group itself but also between said group and the rest of systems it relates with, even with the social context on which it acts.

“Healthy life” for a system

- High degree of differentiation of its components
- Clearly defined limits and functions
- Communication with no contents that carry double meanings (content and relation)
- Flexibility in the relation: symmetric or complementary depending on what is convenient in each case
- Self-regulation in benefit of the growth and evolution of the group by means of the correct handling of the homeostatic and morphogenetic forces that indicate the system when it should change and when it should not change.

Practical case

Three years ago we gave a course on conflicts in the classroom and students with family problems. It was a very productive experience for us because as our field of work is health we were able to exchange communication and experience with the professionals of a field as interesting as the educational one.

Our objective was to show them the systemic analysis method by means of the description of the family functioning. We intended that they learn to analyse from this point of view the dynamics of any group or system which they interact with: the school, teachers, students, families, etc.

The methodology of the course itself favoured an exchange of information in which the participants described how their work day was (in the classroom, with their colleagues, with the directing staff...) and they staged by role-play certain sequences of their work. With this feedback we were able to identify three systems: that of the families of the problematic students, that of the school, and that of the diversification groups.

Curricular diversification is aimed at students who are in a situation in which they do not meet the objectives of the stage with the ordinary curriculum, who manifest their interest in obtaining the diploma of graduated in Secondary Education, and who are 16 years old or will be in the calendar year in which they enter the programme and are under 18 years of age.

This programme is an alternative way of studying all or part of the 2nd cycle of the Obligatory Secondary Education (Enseñanza Secundaria Obligatoria, ESO) through specific areas, common and optional, with a methodology and contents adapted to the needs of its participants in order to reach the general objectives of the ESO (Generalidad Valenciana, Consellería de Cultura, Educación y Ciencia. Atención a la diversidad, pág. 30).

Our conclusion on the three systems observed was:

1.- The parent: the characteristics of the families described by the teachers corresponded to disengaged systems. (Table I)

2.- The School: in the same way as the families, the characteristics of functioning of the schools corresponded to those of disengaged systems.

3.- "Curricular diversification" groups: of characteristics similar to those of an enmeshed system they were composed of students who due to their special difficulty and failure at school needed to be assisted in small groups and with learning models different to those of the rest of students. (Table II).

With all this information we proposed several matters: the first was that as the functioning of the School and of the families were similar (disengaged-disengaged) the result would be homeostatic, or in other words, NO CHANGE.

With this we mean that the type of relation that is established in school with the students is similar to that of the problematic families described by the teachers. Thus, the school is homeostatic in the sense that it strengthens or reaffirms the

behaviour of the students who, on the other hand, are identified as abnormal, dysfunctional, or problematic.

However, the relation that the teachers of the diversification environment establish is different to the previously described one, so that it not only does not strengthen the homeostasis but it favours the possibility of changes in the system (disengaged-enmeshed=CHANGE).

In order to analyse what differences there could exist between the diversification group and that of the students who attend normalised courses we proposed the group of professors to analyse some characteristics of our representative sample, both of diversification students and of those we would call “normalised” or control group, who would be those who were not classified as a failure at school. In this way they would measure the social support perceived by the student and also the family function-dysfunction.

We found a certain resistance amongst the teachers because they said that the “normal” students were the same (“as problematic”) as the diversification ones; they were not sure they could be a comparison group. But they finally accepted to pass the questionnaires as we had agreed. When we saw the results we understood the resistance they showed.

As there were no statistically relevant differences in the studied social and demographic variables, and due to their similar background we thought that both samples are comparable and that the results of these comparisons were sufficiently valid to discuss them.

We will not deny the surprise we felt when we checked the results of the Family Apgar. How was it possible that the students presented as most problematic and with most family conflict had normal functioning families in a higher degree than the others? Had this any relation with the resistance of the teachers to consider the “normalised” students as different to those of the curricular diversification?

Well, when asking the teachers about the details of these “curricular diversification” groups they told us that when selecting the students liable to join the diversification they carry out a series of activities named by us as authentic “therapeutic acts”:

1.- They talk to each student and they ask for his/her voluntary participation in the programme; if they do not want to, they do not enter diversification (they involve them in the process of change).

2.- They tell them that their greatest interest will be their individual growth as a person(they jump from the objective -marks- to the affective –the relation-).

3.- They tell them that they trust they are going to do it very well (therapeutic resource known as “sowing” or “self-fulfilling prophecy”).

4.- They call the parents and ask for their adhesion to the programme, their collaboration, their signature (involvement of the parents in the problem, collaboration family-school).

5.- Two teachers, who offer themselves voluntarily, are in charge of the group (they form a cohesive "parental team").

All the described actions form an authentic therapeutic contract in which are applied movements that are very different to those carried out in the rest of the School.

If we described the school as a disengaged system, in the same way as the families described as problematic by the teachers, the curricular diversification is a programme characterised by enmeshment movements where the relation is more important than instruction, the sense of belonging to the group is affirmed, the information of each individual (as a person) is relevant, the messages the student receives from the teaching system are cohered by the two teachers who take charge of the programme, and there exists an agreement on the mission of the student, both on behalf of the teachers and of the family.

(This study: methodology, results, analysis of the teachers, etc. can be found on the Internet

- <http://www.members.tripod.com/diversitas/prop/010923a.htm> – with the title: "Cambiar para que nada cambie". Authors: Lola Planelles (Teacher), Elena Compañ (Therapist), Josep Moreno (Family Doctor).

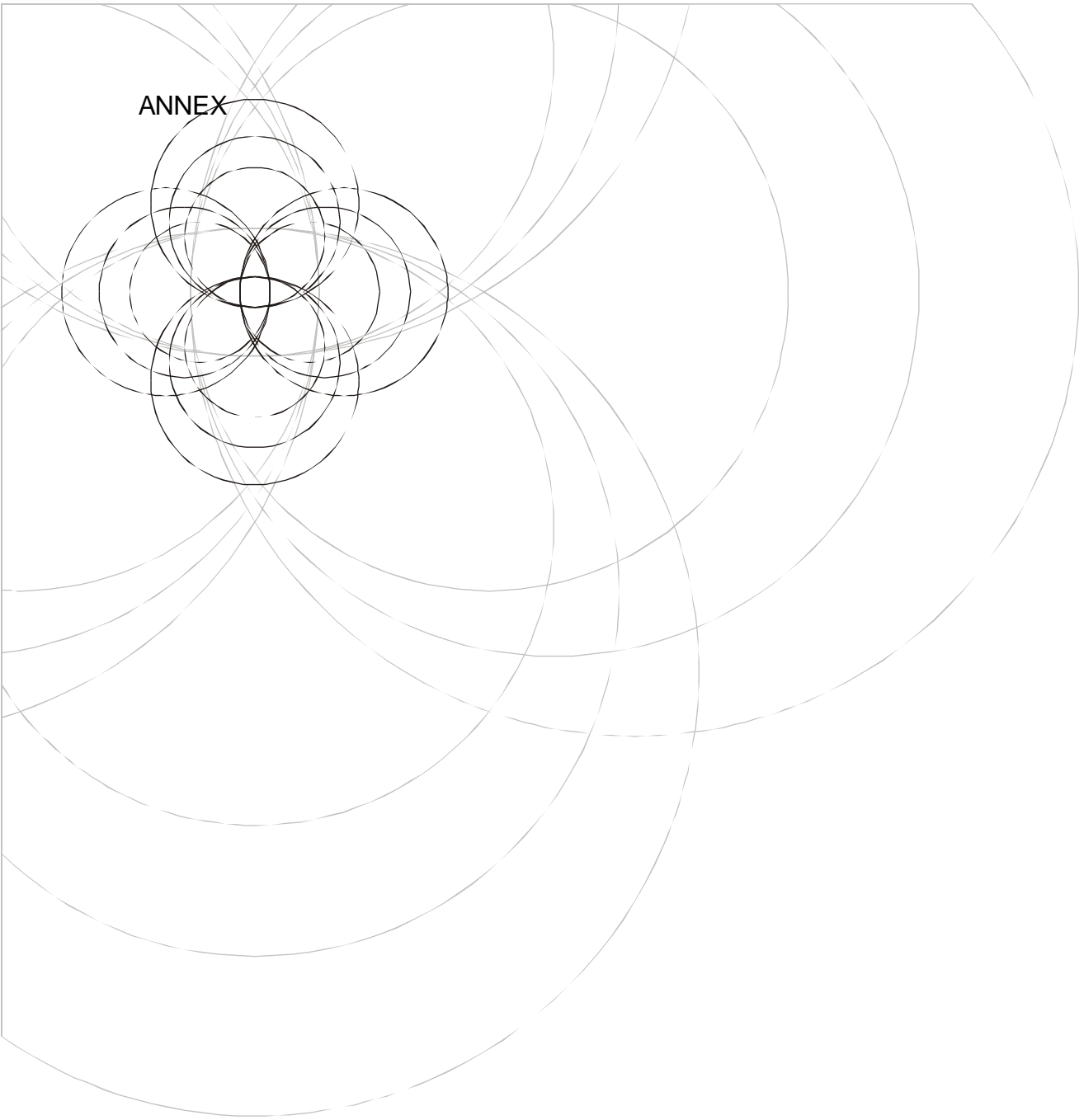
Conclusion

The teachers of the XXI century are faced with the challenge that their "subject" is something more than their subject because as M. Castell says: "We have entered a world that is truly multicultural and interdependent that can only be understood from a plural perspective that articulates cultural identity, global interconnection, and multidimensional politics".

To educate the youths of nowadays from the single position of increasing their knowledge is difficult because they move in a world loaded with information to which they gain access easily in their environment.

But the affective support is not given by Internet nor by video-games. However, the daily contact, the relation, the education in its global sense, the teacher as a reference point in the process of becoming a "person" are still in the hands of the teacher who is ready to face the change. In this line the curricular diversification can be an example.

ANNEX



Glossary of terms

Source: Simon, F.B., Stierlin, H. y Wynne. "Vocabulario de Terapia Familiar" Barcelona: Gedisa, 1988

Cybernetics

Term coined by Wiener in 1948 to include all the field of the control and communication theory, be it of the machine or of the animal.

Circularity/Recurrence/Circular Causality

These terms refer to a sequence of cause effect that sends us to the first cause and confirms or modifies it. This principle is applied also to the processes of conclusions and logical argumentation. The most elementary model of circularity is the so called **feedback** circuit. Its conceptual opposite is **linearity**.

Feedback

This is a method that consists in controlling a system re-inserting in it the results of its past performance (Wiener, 1954/1967, page 84). Although feedback circuits and structures are essential elements in the cybernetic systems, in the systemic theory applied to the family and other groups the negative feedback is conceptualised as a regulating element \Rightarrow homeostasis, as a previous condition for the survival of the system in an environment that changes constantly. The concept of positive feedback \Rightarrow morfostasis is used to explain the change, especially the discontinuous one.

Discrimination self/object (differentiation)

Every individual must, during his/her development, produce a concept of self that differentiates itself from the identity of other individuals and that is autonomous in itself. The whole of all the ideas and perceptions of his/her own being produced during the individual development and integrated relatively in a functional whole is perceived as **identity**.

Entropy/Negentropy

Entropy is an approximate measure of the disorganisation and the disorder, or the lack of a model in the structuring of a system. The negative entropy or negentropy in general terms refers to the degree of order or organisation of a system.

Structure

In the framework of **Cybernetics** the concept of structure describes the totality of the relations that exist between the elements of a dynamic system.

Holism

This form of thought understands that all aspects of reality (animated matter, the inanimate, physical and psychical) form a unity and a whole.

Limits

Boundaries between the individuals, the subsystems, the systems and the context. Spaces of separation that “filter” the information that we want to let in or out.

Rules

According to the definition of Jackson (1965) rules are “relation agreements” that “prescribe and limit the behaviour of individuals in a wide variety of spheres of **content**, organising their interaction in a reasonably stable system”.

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