NGOS AUTONOMOUS LEARNING PROMOTION SUPPORTED BY AN ENGINEERING PRACTICAL AND PARTICIPATORY METHODOLOGY:

AEI Foundation case

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Abstract
This article presents the experience and results obtained through a participatory construction process of autonomous learning in the AEI Foundation, a Colombian environmental NGO. The foundation interest was to have an institutional strength and through the autonomous learning process the foundation develops an institutional plan.

The learning and planning process were based on a participative construction approach. This approach is compound by 4 elements:
1. Instruments designed for participative construction: weekly workshops, and Idealized design.
2. Dialogic places construction: genuine listening and speaking that leads to participative construction.
3. Auto-observation: reflexion in order to make sense of personal and organizational actions
4. Maturity Scenarios planning exercise: To auto-recognize the self development NGO situation, in coherence with their context oriented to achieve their idealized design.

Our goal is to promote the autonomous learning in a NGO context making use of both engineering tools such as maturity scenarios planning, idealized design, and indicators; and a participatory methodology which permits the creation of dialogic places and auto-observation.

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1 Before called: Environmental and Farming research Joaquin Montoya Foundation.
I  INTRODUCTION
This article describes the experience and results about the participative planning exercise developed in the AEI Foundation. In the following text is described the content by chapters:

In the chapter II is presented the Foundation context; in the chapter III are presented the exercise antecedents; in the chapter IV are illustrated the conceptual bases which give place to the exercise; in the chapter V is presented the methodological focus used; in the chapter VI is described the process developed in two stages: Diagnosis and planning; in the chapter VII are described the foundation results through this approach; and finally in the chapter VIII are presented some conclusions about the experience.

II  FOUNDATION CONTEXT
The AEI Foundation is located in Soacha Municipality in Colombia South America; it is owner of a school which has offered the education service from 12 years ago with an Institutional Educative Project –IEP- named: “Towards reconstruction of environmental conscience through research processes”. The foundation mission is to improve the social environment of the vulnerable childhood at the Soacha Municipality, through an integral education and research environmental projects that pretend to give a response to the multiple social problems affecting this community.

Our philosophy consist of make aware kids and young people about the environment, creating an environmental conscience which promote in them love by nature, and to preserve it since they are the seedbed of future generations, which should guarantee a heal and sustainable environment. Our institution offers the educative service to 620 students. Most of their families are of a low income, displaced by violence, and they lack of sewer system.

III  EXCERSISE ANTECEDENTS
In order to improve the support given by the foundation to the childhood and get support from other organizations the foundation built an alliance with “Alianza Social Uniandina” –ASU- a non profit entity belonging to Uniandinos a graduates association of the Andes University. Its aim is to promote an interchange between graduates and Institutions where professionals can practice their social responsibility and reduce the distance between their careers and the country reality.

In line with this goal the AEI Foundation is favoured by an Institutional strengthening programme promoted from ASU, in which the foundation has been supported by a volunteer2 who has helped the foundation to strength its activities through an Engineering Practical and Participatory Methodology and specific workshops in topics such as: organizational diagnosis, strategic planning, NGOs regulation, social responsibility, resources management, operative and govern

2 Volunteer Julia Helena Díaz Ramírez
structure, processes, strategic planning, networking work, social projects design, evaluation and control and corporative Image.

IV CONCEPTUAL BASES

IV.1 Methodological Approach antecedents
The instruments used in the workshops and the subsequent analysis of information obtained from them was formulated taking into account conceptual and methodological schools of thought such as: systems thinking, organizational cybernetics, the construction of learning communities, and the planning exercise through the concept of maturity scenarios. In the following lines is described a general frame where are presented some elements of these schools of thought:

Systems thinking is a school of thought originated in the 60s with the purpose of the biologist L.V. Bertalanffy who proposed the General Systems thinking theory as the formulation and derivation of valid principles for systems in general. It means these principles can exist for different system knowledge areas, for instance: engineering, psychology, basic sciences, among others.

Years later the physicist Heinz Von Foerster, systemic promoter propose to convert the term SISTEMIC from adjective –Systemic thinking- to noun, as a way of thinking and set out questions and explanations. From there was born the systemic which he proposes as “the art of see, find out and specially recognize connections between observed entities...”

According with the previous authors, emerge a question about what is considered a system. Checkland and Scholes, professors from Landcaster University in the 90s define a system as “A whole hierarchically organized that has emerging properties and can survive in a changing environment if it has communication and control (regulation) processes. These processes permit it to adapt to the environment as answer to disturbances originated inside it”. This definition permitted to identify some relevant aspects that after were taken by other scholars to human organizations. In this sense, topics like to guarantee effective control in order to achieve goals, to construct an effective organization, among others, come in inside the systemic diary.

Parallel to the previous studies come up the organizational cybernetics, initially with Stafford Beer, who is oriented to design effective organizations with special concentration in communication and control aspects. This is constituted a reference frame to design management control systems and generate organizational learning, considered today as knowledge management from a systemic perspective.

The viable system model come up in the organizational cybernetics context and is useful to understand and propose the design of effective organizations which survive in their environment. In this sense, in our Colombian local context, professors E.
Aldanda and A. Reyes\textsuperscript{3} have presented a propose based on tools like “idealized design formulation” of Rusell Ackoff which means the creation of a future dream.

Moreover Corpoeducación\textsuperscript{4} developed through group discussions a planning and monitoring exercise by maturity scenarios in NGOs, there, its director Diego Villegas explains the housing progressive development as a usual method to built up a house for people who has low incomes, the idea is a short term building plan oriented to specific family necessities. Furthermore in the same project was studied the e-maturity model from Becta UK, a model that permits to know the actual state of maturity for a school related to use of ICT (Information and communication technology), however in the NGOS particular case the analysis and planning is not focus on the ICT topic due to their needs.

The human organizations have complex learning processes, but their human nature offer a fundamental element, this element is language, as it is proposed by Rafael Echeverria\textsuperscript{5}. Thus, systemic is focus on the comprehension of a system from its relationships between its parts; cybernetics is focus on the effective way of communication and control of interaction between the parts of a system; and a human organization is focus on the construction of an effective community through the adequate use of language, which is the base to consolidate human relationship as a learning community. It is consolidated through the construction of language agreements (Lleras, 2002).

Section IV.2 Participatory Methodology (agreements)

The participatory methodology consists in the construction of a team work which is invited to create dialogic spaces where they dialog, reflect, and build agreements together in order to get empowered in the construction of their own direction and development.

In the present study the team work was invited to reflect about the current foundation situation (diagnosis), the selection of foundation action lines and the creation of maturity scenarios planning exercise, in order to give a direction to the foundation, building together a plan in a long, medium, and short term. The maturity scenarios planning are in this order because is based on an “idealized design” and “gap analysis”. And the thread is the concept of passing through maturity steps from the actual situation (diagnosis) to the idealized design.

The dialogic spaces have created a new dynamic in the organization that permits participants to plan Foundation development taking in account its own environment in topics such as: evaluation, development, mission and other necessary resources that permits to the NGO to be viable in time.

In order to cross from one maturity step to the next one, participants define and monitoring (by means of indicators) a set of goals in the short place for defined

\textsuperscript{3} Industrial Engineering department from the Andes University
\textsuperscript{4} A private Colombian NGO dedicated to strength education quality.
\textsuperscript{5} Philosophy doctor from London University
aspects that we called “dimensions”, those dimensions could vary from an organization to other, in our case, those were defined by the team as: Identity consolidation, management control, communication, infrastructure and Intelligence.

V  METHODOLOGICAL APPROACH

The approach used in the present study has been based on 4 elements: 1. Instruments designed for participative construction: weekly workshops, and Idealized design; 2. Dialogic places construction: genuine listening and speaking that leads to participative construction; 3. Auto-observation: reflexion in order to make sense of personal and organizational actions; and 4. Maturity Scenarios planning exercise: To auto-recognize the self development NGO situation, in coherence with their context oriented to achieve their idealized design (See image below). These 4 aspects are the base of the promotion of autonomous learning in the AEI foundation.

Figure 1: Autonomous learning process in NGOs

V.1 ¿What is the meaning of autonomous learning?
As participants in the process study auto-observe and reflect about themselves and their roll in the NGO, starting to “be in charge” of what they are doing and telling to others (9). Moreover they develop the capacity to build up agreements and
compromises effective in their surroundings (6). This process develops the individual autonomy when the person starts to be responsible about his roll in the participative construction process.

Additionally the articulation between individual and foundation purposes (participative agreed) permit to initiate a construction process of shared senses and meanings giving entry to a learning process.

If is joined, the shared construction of agreements, meanings and compromises - effective actions- by a teamwork of members and the development of their autonomy as individuals, they can consolidate an autonomous learning process thanks to effective relationship construction.

The lack of reflection and spaces to dialog about the organization future do not permit to promote an autonomous learning. In that sense, the creation of dialogic spaces and the annual assembly have permitted them to reflect about the foundation function processes in order to direct the foundation through maturity scenarios and the idealized design defined by the members.

**VI Excersice Process**

The experience process is composed by two stages: the first diagnosis stage and the second planning and monitoring stage. Currently we are in the second stage; however it is a cycle repeated in time since it helps to feedback the foundation in order to take decisions.

**VI.1 Stage 1: Diagnosis**

In this stage the assessment process has been developed through weekly workshops created by the volunteer in order to construct a dialogic space in the Foundation in which through the participatory methodology and the use of design tools and an organizational planning we constructed a diagnosis and an action plan with the purpose to strength and consolidate the Foundation action. The topics developed in the workshops in order to develop a diagnosis were: 1. Diagnosis exercise based on reflexion and observation of the foundation members about the current foundation function; 2. Ideal design; 3. Ideal design adjust; 4. Control and evaluation, management cycle and maturity sceneries; 5. Networks based on mission labour; 6. Processes and administrative aspects; 7. Corporative image; and 8. Building Agreements and planning priorities.

According to the workshops developed during this first stage of experience was developed a diagnosis document, some topics relevant to mention are:

- The foundation is recognized by its labour in the Soacha Municipality.
- Foundation workers are socially committed with the main goals of the foundation: environment, education, and research.
- The foundation institute implements different projects but due to the lack of clarity of direction the resources are invested without a medium and long vision planning.
• The foundation installations are in good conditions however they are in a permanent adjustment, improvement and change.
• The compromise with the institute and the foundation labour likewise the dialogic capacity and disposition not only to external suggestions but also to the auto-observation of mistakes is a huge members strength.
• The foundation web page is an important channel of communication however it is unclear the information focus.

VI.2 Stage 2: Planning and monitoring:
In this second stage the workshops have been developed based on the diagnosis document in the idealized design and the building of the maturity scenarios with its dimensions.

1. Maturity sceneries planning
Trough the diagnosis and the participatory construction the foundation members have created their own maturity sceneries planning, which facilitate the activities and direction the foundation should follow to achieve its mission and its idealized design in a long term. This approach is in constant change due to the goals are achieved in time and should be created new ones. The aims established at the moment as “idealized design” by the foundation identified as consolidated are (See figure):

2. Dimensions

a. Identity Consolidation:
In an identity consolidation consolidated all foundation action lines should be fortified, with goals identified according to the maturity sceneries. The foundation should be legally constituted. The functions and profiles should be well defined. And all strategic lines should be economically sustainable.

b. Management control:
This management control is considered consolidated when all foundation action lines are controlled through indicators taking in account the short, medium and long foundation planning, moreover the control and monitoring of indicators will feedback the maturity sceneries to take decisions and plan new aims.

c. Communication:
A foundation communication consolidated means the foundation labour impact is recognized in local, national and international level. The foundation web page should be a media to inner and outer communication, where should have an interactive communication between users.

d. Infrastructure:
An infrastructure consolidated means the foundation has defined a space to develop administrative, pedagogic and research practices.

e. Intelligence:
An intelligence consolidated means the foundation has consolidated strategic alliances with governmental and private entities with which are developed projects
together, according with the environmental, educative and research foundation focus.

VII RESULTS

According with the experience process of the first stage of diagnosis and the second focus on the maturity sceneries planning, the foundation has achieved:

- To give a priority to resources and destination of them inside the foundation oriented by selected mission lines: Environment, education and research.
- To construct dialogic spaces for organizational reflection and planning.
- To give priority and define the bases of a control management systems.
- To define a service portfolio, to improve web page, and participate in announcements, papers, and events.
- To change foundation corporative image as AEI foundation, dedicated to environment, education and research topics. (See figure on the right).

All of these results are related with the autonomous learning, as we understand it.
VIII  CONCLUSIONS

In conclusion to create spaces of participation of the NGO participants in order to generate dialogic places is important for NGOs due to foundation members can build and rebuild its organization according with their experience, and context. Moreover communicative places are an important element to create a personal and organizational autonomous learning in order to construct agreements about the direction the institution should follow and the changes and “maturity steps” it needs to follow in order to achieve their “idealized design”.

This methodology can be used by other NGOs in accord with their own maturity organizational processes and their particular context in order to facilitate their economic sustainability in a medium and a long term.

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X  REFERENCES


8. Fundación Corona.


