



**QUALITY MANAGEMENT IN EDUCATION SECTOR PART III:
CONCEPTUAL AND OPERATIONAL FRAMEWORK FOR ASSESSMENT AND
MEASUREMENT OF QUALITY OF WORK LIFE**

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Abstract

The identification of variables of organizational climate whether they are an organizational situation, a psychological distress or burnout, and how to prevent them and the mastered is not a simple exercise and is a strategic requirement.

In this context, it became important to develop a theoretical and operational framework for the management of these variables and the quantification of their harmful or motivating effects on teachers.

This interactional and prosperous theoretical framework based on psychosocial barometer of criticality or well-being allowed us to:

- Developing psychosocial indexes of criticality and well-being that reflect the feed-back from teachers regarding major and successive reforms that our educational system has undergone, by adopting authentic quality approaches like the FMEA method . Such measures can run either selectively or generalized to all components of the macro-process.
- Monitor the evolution of psychosocial indexes by implementing 3 type of supervision limits: operational, warning, and critical, while drawing inspiration of Pareto chart and the 5W method;
- Define levels of intervention and priorities for improvement.

The mobilized tools contain simultaneously three dimensions: organizational, pedagogical and psychosocial and whose purpose is to help policy makers to identify the actions to be implemented to improve the quality of work life and secure a perfect functioning of the education and training macro-process.

Keywords: Perception, FMEA, Psychosocial Index of criticality, Psychosocial Index of well-being, Limit of supervision, Psychosocial barometer, Quality of work life.

Abbreviations:

AFNOR: French Association for Standardization

FMEA: Failure Mode and Effects Analysis

WHO: World Health Organization

ANACT: French National Agency for the Improvement of Working Conditions

1. Introduction

After mapping, analyzed and identified the variables of organizational climate likely to be a risk factor or well being for teachers; our current work consists in conceiving a theoretical framework for assessing early and anticipative the impact of variables exist in the work environment in order to control their evolution.

Statistics and analyzes of educational authorities emit educational and financial indicators for learners while psychosocial indicators for working conditions of teachers are absent.

The measurement of these indicators which reflect the feed-back of teachers with respect to major changes that our education system has suffered, requires the establishment of a system of supervision and anticipatory prevention to monitor the psychosocial indexes of criticality or well-being related to organizational climate.

2. Development

2.1 Characterization of variables

The organizational climate finds its utility in the highly revealing psychosocial indications which it emits on the state of evolution of a group or an organization and which reflect the quality of life in the work.

Given that indicators for measures of the performances of a system are unsuitable for the sector of the education, we can estimate the impact of the organizational climate at the teachers in terms of indexes and not in terms of indicators. J.C Mullen (2009) stipulates that to choose the notion of index, it also is to assert our doubts, our questionings in front of the depth and the durability of the changes that we try to arouse [4]. Such indexes concern the psychological and behavioral manifestations stemming from the perceptions of the listed variables.

The proposed risk characterization is based on two indexes:

2.1.1 Psychosocial index of Criticality « PSIC »

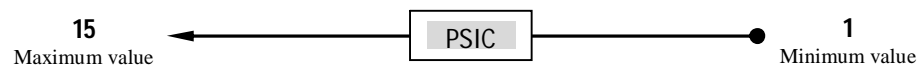
AFNOR (1986) defined the FMEA method as "an inductive method that allows a qualitative and quantitative analysis of the reliability or security of a system" [1]. Under this method, the criticality index for an event can be evaluated from a matrix incorporating two parameters: the severity and frequency of occurrence of risks.

$$\text{Criticality index} = \text{Severity index} \times \text{Occurrence of the cause index}$$

The FMEA combined with our analysis tools can highlight the psychosocial criticality index by setting up affinities between the severity and intensity of dissatisfaction on the one hand and between an occurrence of the cause index and the frequency of exposure on the other hand:

$$\text{Psychosocial Index of Criticality "PSIC"} = \text{Intensity of dissatisfaction} \times \text{Frequency of exposure}$$

This index will have as terminals values:



The increase in PSIC is a warning indicator on the invulnerability of teachers to stress, and therefore the deposit of non-quality in the workplace is gaining ground which promotes the installation of the phantom company.

It should also be noted that the combination of binding requirements from organizational climate and failing personal resources amplifies invulnerability of teachers to stress. In the WHO Publications (Grebot, 2008) we read that among the effects of stress on the company is that they are "undermining performance and productivity, the image of the company among its employees as well as outside" [3].

2.1.2. Psychosocial Index of Well-being «PSIW»

Although the concept of well-being is complex and cannot be quantified by accuracy, it can be defined as the set of variables of the organizational climate favorable for the execution of the teachers' mission.

Since the listed variables widely include six key factors that determine the quality of work life defined by the ANACT (Weill, Heude, 2007) [7] as follows:

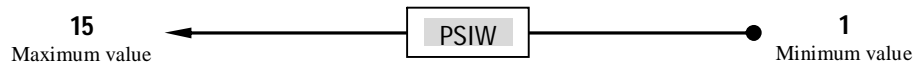
- Quality of social and working relationships;
- Quality of work content;
- Quality of the physical environment;

- Quality of the work organization;
- Possibility of realization and professional development;
- Reconciliation between work life and private life.

So we can give meaning to well-being at work by combining the intensity of satisfaction with the frequency of exposure to define the psychosocial index of well-being:

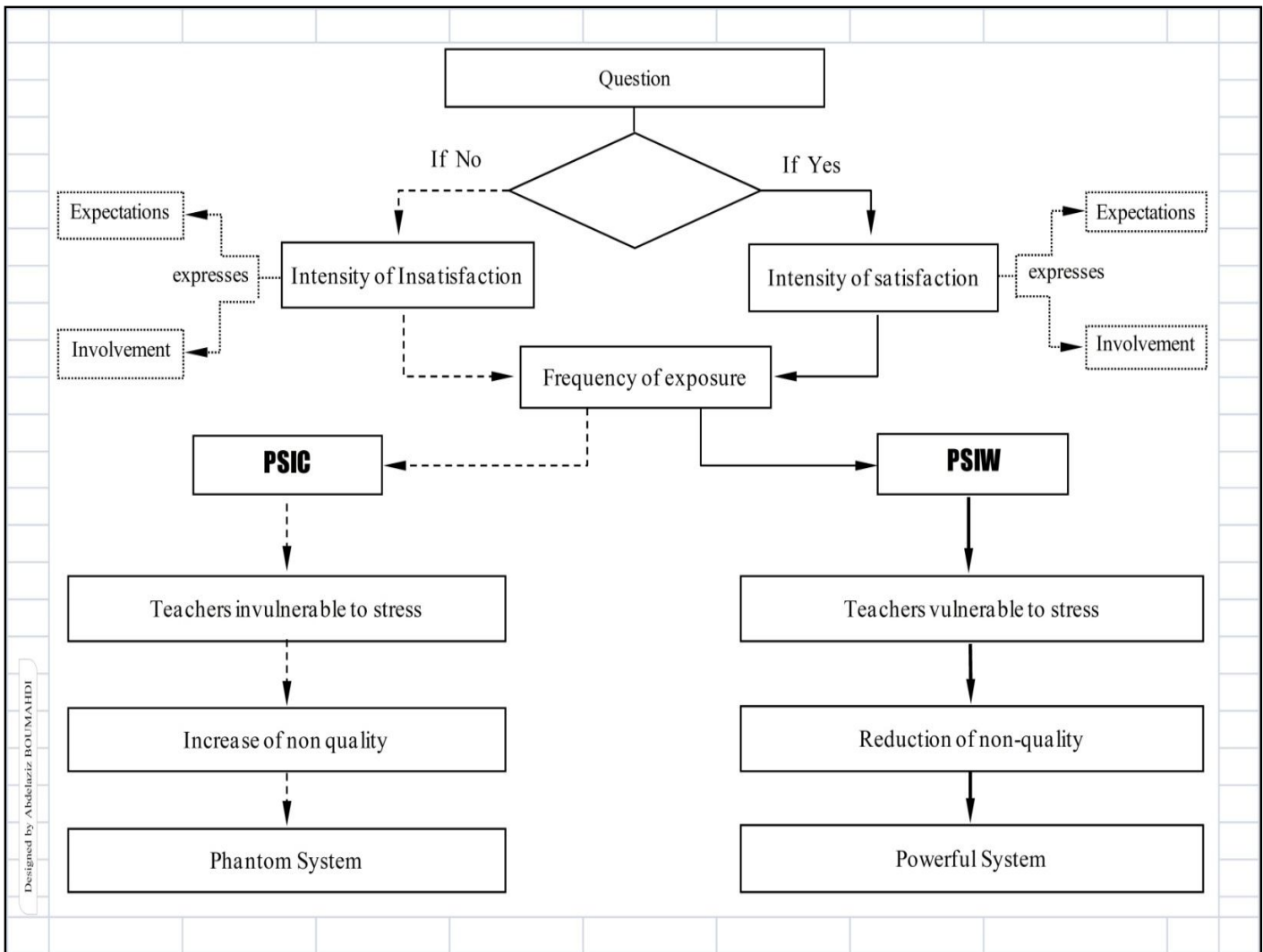
$$\text{Psychosocial Index of Well-being: PSIW} = \text{Intensity of satisfaction} \times \text{Frequency of exposure}$$

This index will have as terminals values:



Increased PSIW is a good indicator of the healthy internal climate of the educational system and translates into a decrease of non-quality in the workplace, which promotes the dominance of powerful company in which one done right at the first time. The flowchart of Poster 1 illustrates the relationship between psychosocial indexes, performance and non-quality.

Poster 1: Relationship between psychosocial indexes, performance and non-quality



The abundance and the diversity of the variables listed, allow acquiring to psychosocial index of well-being an extreme meaning. We can notice that we attributed to the scales of the intensities and the frequencies as the minimal value 1 and not 0, to avoid the multiplication by 0.

As perception is a psychological process that influences behavior and the climate is essentially a phenomenon of perception,... it is logical to conclude that organizational climate can influence behavior at work and hence, the individual and organizational performance (Costello & Zalkind, 1963; Hogue, 1971; Robert, 1976) [5].

2.1.3. Size of the psychosocial indexes:

One of the originality of this theoretical framework:

- It is his power to quantify and prioritize psychosocial indexes since the baseline levels of the variables to the overall level of the questionnaire, through intermediate levels of clauses (see Table 1).
- These psychosocial indexes can be treated globally or selectively according to the degree of optimisation targeted.

Table 1: Size of psychosocial indexes of criticality and well-being

Increasing level of the questionnaire	Psychosocial Index to define
Question or variable	PSIC-V
	PSIW-V
Subclause	PSIC-SC
	PSIW-SC
Clause	PSIC-C
	PSIW-C
Questionnaire	PSIC-Q
	PSIW-Q

2.2. Management of psychosocial indexes

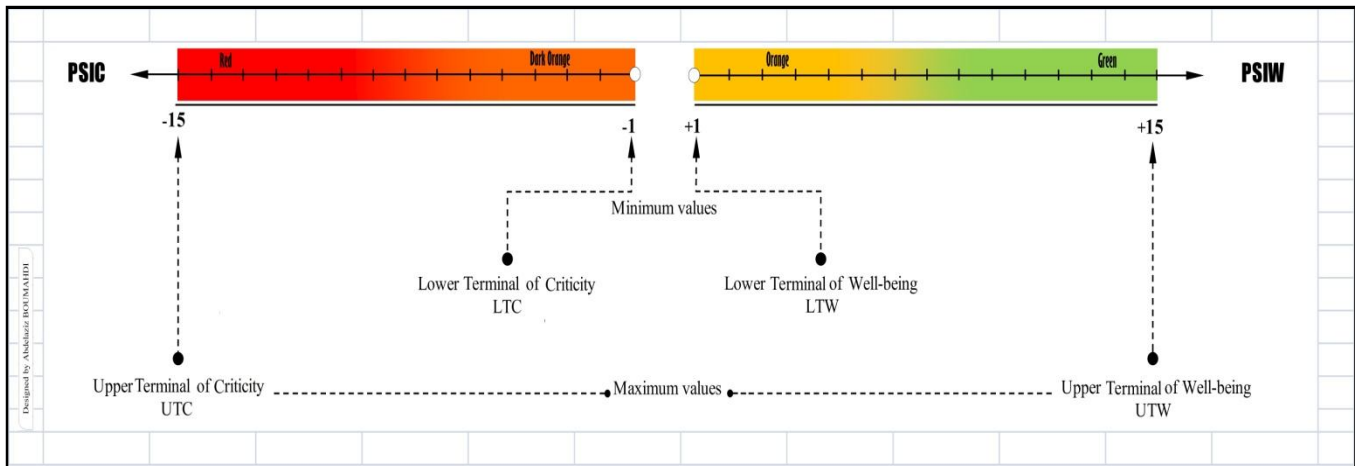
In this section we fully develop our interactional theoretical framework to give meaning to psychosocial indexes through a series of analyzes and judgments that are intended to reduce the probability of occurrence of unacceptable risks.

2.2.1. Radar or barometer of psychosocial indexes of criticality and well-being

We can also build more preventive devices for measuring satisfaction or perception of working conditions, quality of work life, motivation, which followed longitudinally, act as a barometer (Sahler & Al, 2007) [6]. After prioritization of psychosocial indexes of criticality and well-being in ascending rank; coupling quantitative, qualitative and psychosocial analysis allows to define the radar or barometer of psychosocial indexes.

We assigned the "-" sign to PSIC and the "+" sign to the PSIW to help distinguish between type index by visual consultation also to promote further statistical input. As shown in Poster 2, the gap between the two terminals value is 30 points, which promotes good distinction between different psychosocial statuses.

Poster 2: Terminals of psychosocial indexes



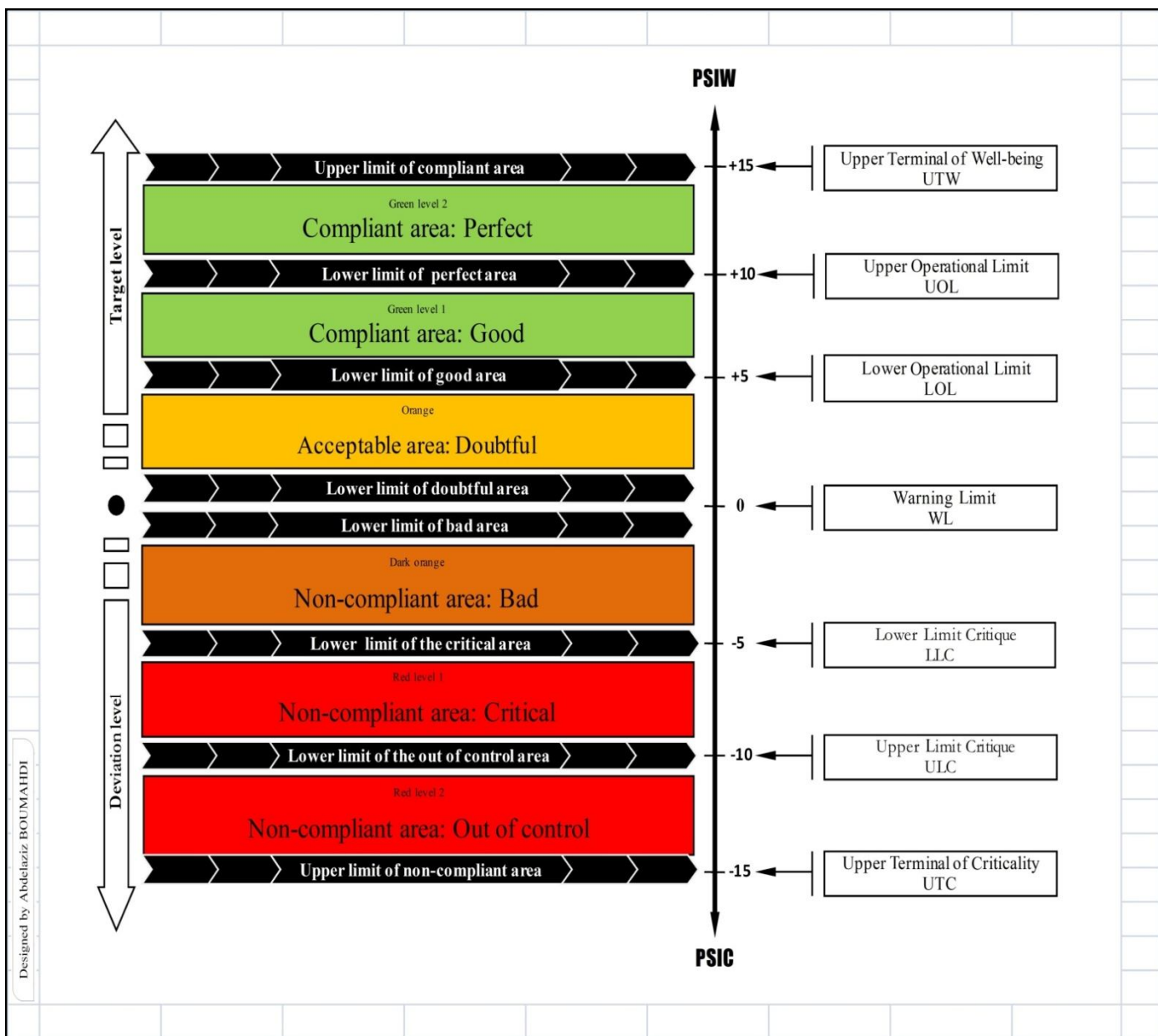
This psychosocial barometer constitutes a dashboard to follow the evolution of psychosocial indexes (see Table 2).

Table 2: Dashboard of psychosocial barometer

	Color meanings for organizational climate	Status	Action to take	Cost of preventive or corrective measures	Length of treatment
Green level 2	Perfect	Compliant	Consolidate and optimize	Very slight cost	The permanent process: Quality becomes a culture
Green level 1	Good	Compliant	improve	Slight cost	short
Orange	Doubtful	Acceptable	Prevent and upgrade	Middle	Middle
Dark orange	Bad	Non-compliant	Correct	High	Fairly long
Red level 1	Critical	Non-compliant	Partially restructure the system	Heavy	Long
Red level 2	Out of control	Non-compliant	Restructure the entire system	Very heavy	Very long

To realize the concept barometer we have implemented three types of specific limits to monitor the evolution of psychosocial indexes namely: critical limits, warning limits and operational limits as illustrated in Poster 3. In this perspective we "can choose a guide value of which we must be closer to permanently: is the « target level»... For a control, we have here three statuses: « acceptable », « non-conforming ». The « acceptable zone» plays a regulator effect in the production flow: we see come adrift before it is blocking in the same way as the orange lights avoid untimely braking and collision" (Genestier, 2002) [2].

Poster 3: Target level and deviation level of psychosocial indexes



Critical limits and warning limits are defined as criteria that separate the acceptable from non-acceptable. They represent the boundaries by which to judge whether educational services are provided in good working condition or not.

In practice, operational limits are designed to intercept deviations that far ahead and thus maintain the performance of the system; therefore they are advanced security margins. To be realistic, it is impossible to monitor all variables at once, given the size and complexity of the educational system, so selective monitoring is imposed.

2.2.2. Surveillance system

Ideally, surveillance must allow to acquire the information necessary to avoid losing control of the organizational climate and do not exceed critical limits in time.

- If the assessment reveals a climate of anxiety, policymakers must act to relieve the psychosocial barometer of criticality by providing deep or radical corrective actions covering different aspects of the structure and targeting management practices.
- If the assessment reveals a favorable environment that will lead policymakers to strengthen the psychosocial barometer of well-being by providing suitable improvements.

In reality, these interventions are carried out simultaneously because relieve criticality involves automatically boost the welfare of the teaching staff.

The mastery of these psychosocial indexes is achievable through a monitoring system like 5W or Who does What, Where, When and How (see Table 3).

Table 3: Monitoring System and 5W method

Which? Responsible for surveillance	Monitoring committee composed of practicing teachers at the Regional Academy of Education and Training.
What? What will be monitored	Psychosocial barometer: Psychosocial indexes of criticality PSIC or well-being PSIW, selectively or globally taken.
Where?	Schools
When? Monitoring frequency	Once a year, beginning of the 2nd semester.
How? Monitoring Procedure	Monitoring of critical, warning and operational limits.

The question that arises it is on what criteria we rely to select the « what » or the psychosocial indicators to monitor?

The Pareto chart provides the answer. Rank among the methods of solving the problems more efficient, this tool allows you to expose and show the most important causes that are at the origin of largest number of effects, and therefore focus efforts to improving failing segments. This component will be fully detailed in future publications.

The use of questionnaire data leads us to call two Pareto charts: the first on psychosocial indexes of criticality, the second on psychosocial indexes of well-being.

2.2.3. Communication of psychosocial indexes

The communication of these psychosocial indexes is performed by interactive exchange of information and opinions among risk assessors, risk managers and other stakeholders in regional academies of education and training parties.

3. Conclusion

This research platform is a promoter primer for understanding the relationship between perceived organizational climate by teachers and operating mode of macro-process of education and training.

The design of an original theoretical framework for the management of organizational climate variables allows us to:

- Develop a psychosocial barometer based on two indexes namely psychosocial criticality index PSIC and psychosocial well-being index PSIW. the importance of these psychosocial indexes vary depending on their size, to the extent that when switching from one lower level of "Variable" to a higher level of "clause or Questionnaire" they take a more extreme significance in terms of coverage organizational and psychosocial weight.
- Design a surveillance system to follow the evolution of psychosocial indexes, which cover three areas: compliant, acceptable and non-compliant defined by operational limits, warning limits and critical limits.

These products have required the transplantation of some industrial concepts like the FMEA method, of 5W method and Pareto chart. Such transplantation demonstrates flexibility of our action plan and provides a bridge between the school and the company.

These concepts developed can:

- Making sense of the teaching profession to improve the effectiveness and efficiency of the process in which they operate or interact through their perceptual system.
- Initiate and introduce with ease our qualitative and statistical analyzes of the data collected.

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