

## *Preventive systems in secondary education in Accordance with*

### *the Applications of the SOBANE Strategy*

النظم الوقائية في التعليم الثانوي وفقا لتطبيقات إستراتيجية سوبان

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#### **Abstract:**

Preventive systems in educational institutions depend on the diagnosis of the prevailing conditions of schooling by conducting an assessment of the current situation and comparing the results obtained from the field with the requirements to be provided according to the criteria and physiological data of individuals. This would determine the areas of comfort, distress, and conditions that ensure the safety and security of pupils in their school environment. Since the type of relationship is quantity-quality, the descriptive analytical approach is used to highlight the descriptions of different aspects of the school building such as location, heating, lighting, ventilation, the land area devoted to various activities, Health and security conditions, playgrounds, restaurants, libraries and so on. To achieve the study's aims, the ergonomic Analysis Method of Health and Educational Safety SOBANE is followed to prevent psychological and social hazards. It consists of four

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techniques (investigation, observation, analysis, and testing). This depends on the participation of all participants in the educational process at all levels, and it seeks to improve the educational quality of life of the pupil.

**Keywords:** Prevention Systems, Secondary Education Sobane Strategy.

**- Abstract in French:**

Les systèmes préventifs dans les établissements d'enseignement reposent sur le diagnostic des conditions de scolarisation en vigueur en procédant à une évaluation de la situation actuelle et en comparant les résultats obtenus sur le terrain avec les exigences à fournir en fonction des critères et des données physiologiques des individus. Cela déterminerait les zones de confort, de détresse et les conditions qui assurent la sûreté et la sécurité des élèves dans leur environnement scolaire. Le type de relation étant quantité-qualité, l'approche analytique descriptive est utilisée pour mettre en évidence les descriptions des différents aspects du bâtiment scolaire tels que l'emplacement, le chauffage, l'éclairage, la ventilation, la superficie du terrain consacrée aux diverses activités, les conditions d'hygiène et de sécurité, terrains de jeux, restaurants, bibliothèques, etc. Pour atteindre les objectifs de l'étude, la méthode d'analyse ergonomique de la sécurité sanitaire et éducative SOBANE est suivie pour prévenir les risques psychologiques et sociaux. Il se compose de quatre techniques (investigation, observation, analyse et test). Cela dépend de la participation de tous les participants au processus éducatif à tous les niveaux et vise à améliorer la qualité de vie éducative de l'élève.

**Mots-clés :** Systèmes Prévention, Stratégie Sobane de l'enseignement secondaire.

ملخص بالعربي :

تعتمد النظم الوقائية في المؤسسات التربوية على تشخيص ظروف التمدرس السائدة من خلال إجراء تقييم للموضع القائم ومقارنة النتائج المتحصل عليها من الميدان بالظروف الواجب توفرها حسب المعايير و المعطيات الفيزيولوجية للأفراد التي تحدد مجالات الراحة و الضيق و الظروف التي تضمن

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السلامة و الأمن للتلميذ في بيئته المدرسية. بما ان نوع العلاقة كيفية -نوعية تم استخدام المنهج الوصفي التحليلي للتعبير عن أوصاف مختلف جوانب المبنى المدرسي ، مثل الموقع ، التدفئة ، الإضاءة ، التهوية ، مساحة الأرض التي يشغلها مركز النشاط ، الظروف الصحية والظروف الأمن ، و أماكن اللعب ، و المطعم ، و المكتبة ، ... " مطبقين طريقة التحليل الارغونومي للصحة و السلامة التعليمية SOBANE سوبان للوقاية من الأخطار المهنية و النفسية و الاجتماعية و تتكون من أربعة مستويات تدريجية، (التقسي، الملاحظة، التحليل والاختبار)، تعتمد على الطريقة التشاركية مع كل الفاعلين للعملية التربوية وفي كل مستوى ، و تسعى الى تحسين نوعية الحياة التعليمية للتلميذ .

الكلمات المفتاحية: النظم الوقائية، استراتيجيات سوبان، التعليم الثانوي.

### - Introduction:

The goals of occupational safety and health policy have changed dramatically over the last 10 years, thanks to the Hawthorne influence with numerous experiences of the Western Electric Company that began in 1924 and continued until 1932. It reflected the idea that the worker's productivity depends primarily on the consideration that we have for them instead of so concrete evidence of their working conditions: Lighting workshop, many breaks, daily working hours, pay system individually or collectively and so forth. After the report of Elton Mayo and his team which declared that workers' productivity increased in most of the changes made (Sarnin, 2007, p.66). The original study attempted to find the relationship between lighting and efficiency.

Engineering psychologists then take care of the need to improve the environment in which people work or live to increase production and to maintain their mental and physical health, as it was mentioned Laugier who said: "We want to take care of workers in industrial, commercial and peasant enterprises, in departments, in pedagogical circles, in civic and sports education centres, and all technicians who face organizational difficulties, including all the roles they must play in creating working conditions and knowing the human worker." kapitaniak & Monod, 2003). After that, Laugier published several research papers (Jelliffe, 1966 ; Dillon, 1967 ; Gurney, 1969 ; Fisher and Davison, 1970 ; Jansen, 1973) in the field of school health, anthropometric to detect children's characteristics and design furniture suitable for them. Horton's research (1972) revealed the ability of pupils to focus in school on educated subjects is largely influenced by phenomenal factors such as lighting, noise and ventilation (Mohamed Mekdad, 2010, p. 126).

As early as 1975 in Belgium, "prevention policy" systems were identified and this time with goal requirements. However, the regulation took many years to enter into business methods as well as to prevent them and reached maturity only in the late 1980s. In 1996, the World Health Organization submitted a new

expansion entitled "Comprehensive occupational health", in recognition of the importance of the quality of work environments and the general environment for national development: Quality of production, social facilities, and quality of life at work. According to the World Health Organization, attention is directed to all physical, physiological and psychosocial factors, not only for accidents and occupational diseases, but also for comfort, quality of life at work, and outside work (i.e. related to work) In 1998, the Social Welfare Act published and followed the restructuring of internal and external prevention and protection services. Moreover, legislation took another step towards a strategic and responsible approach to managing labour welfare (Malchaire, 2003). Emmense research efforts in several studies led to more progress in dynamic risk management. It aimed at detecting and analysing sources of hazards, identifying means of eliminating or controlling them by developing concrete preventive measures to the obtained results on the basis of which prevention and well-being are carried out in an evolving and ongoing strategy ( kocovski, 2012, p.80). During 2002 to 2006, a research project by the European Union, the European Social Fund and the Federal Public Service for Employment, and Work and Social Dialogue was conducted to apply the "Sobane" strategy for improving life conditions by analysing the physical and juvenile conditions in 14 areas of professional risks. 32 areas of various occupations and activities have been provided. The strategy has received considerable attention in the West and in the developing countries which are trying to promote their preventive system (From Turkey to Chile via Tunisia, Algeria, Brazil, Colombia and Venezuela and so on). Sobane's strategy has become not only as a means of risk prevention, but it has been a quality measurement tool in product quality and working life as well. Therefore, the name of the Déparis Guide has been changed to QVT 'quality de vie au travail' as a means of quality of life at work (Malchaire,2003).

As part of a collaborative programme with Maghribian and European universities TEMPUS, the research plan was developed and was based on the application of the strategy of risk management and accident prevention in secondary education. It charted the direction of the field study as analytical studies on how to examine the quality of relationships, activities and attitudes. The researcher focused on investigating events for the overall situation, that is, describing details of what is happening in a particular activity or situation by detecting and analysing the source of risks and prioritizing the inventory of the problems declared to the parties concerned, by applying the Sobbane strategy at Ben Yahya High School in Constantine State. "The purpose of this evidence is to organize a participatory debate in which all aspects of the work situation are reviewed not only to assess risks, but also to make the school work better by improving some technical, organizational and social aspects (departmental consultation guide, 2008). Moreover, it is a method of a work curriculum for conducting an analysis of all risks that a worker may face. Further, it is a method of solving problems and dynamics of change with an overview of problems with the participation of the worker includes pupils, professors, workers and their manager in order to prevent the safety and health of all (Malchaire,2007). It is based on the following assumptions:

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- 1- The study tool, with its different axes, attitudes and possible alternatives to each situation, gives a realistic idea of the pupil's educational practices in the high school.
- 2- The type of the qualitative analytical study suggests no assumptions but it evaluate and diagnose the educational environment.

### 1- The Sobane Strategy :

The Sobane Strategy emerged in the United States in 1997. It was developed by the Psychological Health Unit of Professor Marichaire from the Catholic University of Louvain under a research project, funded by the General Federation of Employment and Labour Service, Social Dialogue and the European Social Fund. 32 brochures were prepared with observation and analysis guides in 32 risk areas. In 2008, the education sector booklet was prepared subject to the 9001 iso standard, adaptable to the specificity of the enterprise. The medium is simple, economical in time and resources, which allows for the development of a dynamic risk management plan in accordance with the organization's culture of conciliation. (general humanisation of work ,2005).

### 2- The Methodology of the Study :

In order to analyze the conditions of the educational environment, we applied the ergonomic Analysis Method known as Subban to prevent from the occupational hazard. It consists of four levels of intervention ( investigation, observation, analysis, testing). Through a structured approach and depending on the nature of the gradual levels, there will be investigation, observation, analysis, and testing, which involves tools and methods and allows for more and more specialized means, as required. It seeks to find solutions and improve working conditions at each level. Moving to the next level; this can be done only if the situation remains unacceptable, despite existing reforms which include indirect sources such as Soban's High School Strategy Guide and Self-Esteem Lists. Another direct method is the field of interviewing, a personalized codified form and direct observation of the natural attitude of pupils' schooling ( departmental consultation guide, 2008, p23), methodological blueprint ", according to the systematic tracking scheme.

**Table: 2.1. The Methodological Outline of the Sobane's Implementation**

Levels	Level1	Level 2	Level 3	Level 4
	Investigating	Observing	Analysing	Testing
When	In two days	In one week	In one month	complex cases
How	Simple observation	Qualitative observation	analysis	testing
Concerned	Stakeholders of the institution.	Stakeholders of the institution.	Stakeholders of the institution and The	Stakeholders of the institution and the

			specialist	researcher
Tool	Eye observation	Self-assessment lists	Work Analysis Form	//

### 3-The Sample:

The sample for the research was selected according to Sobane's strategy, implemented by people belonging to the high school and subject to the same general conditions: 20 pupils and 9 professors, and a principal adviser for school and vocational guidance. They belong to Ben Yahya High School of Constantine State in 2018 during the period from March to May.

### 4-Tools of the Study

The strategy is the means and equipment which is specialized according to the requirements. At every level, there is a possibility of reforming working conditions. The next level is resorted to only if the situation remains unacceptable. Thus, the problem is placed under it and solutions are sought in a coherent manner for the set of working positions, so we applied the following tools:

#### 1.1- Qualitative observation:

the description of the reality of the physical and educational environment is carried out by secondary school subjects. To achieve this goal, we tried to answer some of the questions about: what happens in high school? What are the conditions in which the pupil teaches and works? Pupils' work? What are the activities within the institution? How does the pupil perform his work in the classroom and with the professor in the department? From half-time interviews with representatives of the indigenous community and observations.

#### 1-2- Check-list:

Self-assessment, as one of the Sobane's strategic models applied to the study sample and its individuals, is in an active state in which the list of estimates was filled out by observing participation in some periods and we collected other data through the interview, the objective of the checklist was to ensure that there were occupational risks at all levels, as well as to ensure that teachers or pupils were exposed to unauthorized or unauthorized

school accidents and that there was no obvious harm or long-term illness or impairment through complaints of uncomfortable conditions or chronic pain. The note card for self-assessment consists of 7 axes, public location, school construction viability, hygiene, public health, activity environment, organizational and aesthetic aspect.

### **1-3- The Division Analysis Form :**

is inspired by the Work Analysis Form to classify the completed tasks of Pieres and Jardillier (1986), describing the activities of the educational process and the classification of duties and requirements. These methods, therefore, can be relied upon and their results trusted in determining characteristics and qualities that have been studied consistently and truthfully so that "honesty refers to the appropriateness, meaning, and usefulness of the research findings based on the data collected, while consistency indicates consistency of these findings over time." Researchers use a number of methods to review their understanding to ensure that they have not misunderstood what they saw or heard, and these include review procedures or exercises to strengthen honesty and fortitude.

### **5- The Results of the Study**

We have a holistic picture of the educational process. We have described the realities of the educational environment and have accurately diagnosed the conditions of teaching pupils and professors. We prepared a structured report. Following that, a participatory discussion session was organized for various actors in the educational institution in accordance with the Depares's booklet in order to improve educational services such as well-being and satisfaction for the improvement of working conditions and studies. The results are summarized in the following table:

**Table: 5.1.Prepared by the researcher: Slimani Sabrina from a manual booklet for  
Sobban's strategy**

Places and areas of discussion		
<p><b>Workshops, offices, work areas</b></p> <ul style="list-style-type: none"> <li>- With enough space.</li> <li>- Windows and doors, chairs and tables</li> <li>- whiteBoard, portfolios and shelves cupboards are enough</li> </ul>	<p>Application Acceptable does not affect the course of study</p> <p>The application is unsatisfactory for the lack of shelves and cabinets to save the tools, resulting in the schoolbag being placed on the chair.</p>	
<p><b>Lanes</b> (for people and cars)</p> <ul style="list-style-type: none"> <li>☑ Adequate width, clear and drawn boundaries</li> <li>- Not overcrowded, disabled corridors, good vision</li> </ul>	<p>Application calls for unsatisfactory intervention and rehabilitation is necessary, in the absence of corridors for persons with disabilities or wheelchairs such as slopes, and the lack of general signals for the pupil's safety</p>	
<p><b>Work accidents:</b></p> <ul style="list-style-type: none"> <li>- * Fall from heights, mechanical hazards</li> <li>- First aid.</li> </ul>	<p>While performing applied work, they are mechanical and exposed to moving parts, cuts, impacts, and both voluntary and involuntary actions. They are caused by the erratic learning environment, the ineffective use of the institution's internal system, and the management of teacher behavior in the absence of a health detection unit or ambulance box</p>	
<p><b>Physical Conditions:</b></p> <ul style="list-style-type: none"> <li>- Heat, heating, ventilation, dust pollution sources, hygiene</li> </ul>	<ul style="list-style-type: none"> <li>-Discomfort with seating and rest, which is because pupils are present for long hours of the day in an uncomfortable seating position for chairs.</li> <li>-School bags are tired due to the weight of school tools for the abundance of teaching materials.</li> <li>-Physical and intellectual efforts are spent on</li> </ul>	

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	the theoretical and applied subjects of technology in workshops. It requires réorganization and a réduction in teaching hours.	
<p>Social facilities:</p> <ul style="list-style-type: none"> <li>- bathrooms - Comfort Houses, Changing Rooms - Eating Hall - Health Detection Unit.</li> <li>- Size Enough - Comfortable and Equipped</li> </ul>	All social facilities, whether for entertainment or health care, require: intervention, rehabilitation of the institution's space, allocation of sports venues, rehabilitation of green spaces, flower basins, and painting of walls in aesthetically bright colors.	
The situation is unsatisfactory and requires intervention and improvement.		
The situation is acceptable.		
The situation is quite satisfactory.		

**6- Outcome of the juvenile diagnosis consultation session:**

**Table: 6.1. Prepared by the researcher: Slimani Sabrina from a manual booklet for Sobban's strategy**

2. Organization of work for discussion:		
<p><b>Organization of work:</b></p> <ul style="list-style-type: none"> <li>- Clear and appropriate</li> <li>- Allow safe operation</li> <li>- Planning is good both in time and in space</li> <li>- Working methods: Clear and known</li> </ul>	<p>Lack of satisfaction and the situation demands an intervention of of 04 hours in the workshop - a tiring time in the evening-distance - Stuffing in programs and the abundance of subjects up to 26 subjects, boredom in class as a result of the lack of variety in teaching methods and in practical activities, and a lack of ways to</p>	

	expand activity	
<p><b><u>Working conditions:</u></b></p> <ul style="list-style-type: none"> <li>- Location, Tools, equipments, Storage</li> <li>- Emergency, external demands, time...</li> <li>- Enable to apply normal working methods and do quality work.</li> </ul>	<p>The situation is not satisfactory. It needs intervention because of a lack of equipment and pedagogical tools that make the lesson boring and do not draw attention or reinforce motivation.</p>	
<p><b><u>Individual responsibility and independence:</u></b></p> <ul style="list-style-type: none"> <li>- Wait and order. Degree of initiative, autonomy, freedom of communication, responsibility, errors</li> </ul>	<p>The student expects the best from the teacher,</p>	
<p><b><u>Content of education:</u></b></p> <ul style="list-style-type: none"> <li>- Work interest, competencies, information and formations, mental burden.</li> </ul>	<p>somewhat acceptable because of the diversity of subjects between scientific and literary theory and applied. The learner suffers from mental burdens that cause headaches and pain.</p>	
<p><b><u>Psychosocial surroundings:</u></b></p> <ul style="list-style-type: none"> <li>- Psychosocial problems, living conditions in school, conflict and conflicts.</li> </ul>	<p>The situation is unacceptable, requiring reconsideration. This is because of certain psychosocial illnesses due to dissatisfaction to school orientation or to the quality of education, and psychosocial problems due to adolescence requiring entertainment.</p>	
	Elements to be studied with more scrutiny	
	Acceptable and can improve the situation	
	The elements do not need to be studied	

## 7-Proposals for Improving the Working Situation and Recommendations for further Studies

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The study found that the educational environment of the pupils at Ben Yahya High is not healthy in the physical, biological, and social fields. This result affects the conditions of physical education and work in the workshops and explains the incompatibility between the demands and obligations of the stream and the pupil's skills and abilities. This entails a deviation from one's natural response and disturbances in the educational process, and a threat to one's safety and mental health. In accordance with the strategy's philosophy, we have proposed an optimal way of assessing the risk and improving the educational situation to ensure the organization of a safe daily life. In the absence of Algerian legislation on how to manage the risk, it allowed us to prioritize in a consultative manner in decision-making and to implement all measures to re-create and design the educational environment within the framework of a cooperative project with the contribution of all participants. These participants are from civil society and scientific research at the lowest cost and at the least possible time and to invest in local human resource heads and youth capacities to create entrepreneurship and a kind of loyalty and organizational affiliation for the school within the policy of national guidance.

**Table: 7.1.Proposals and Alternatives for the Good Functioning of the Institution**

who	does what	How	when	Cost
management of the institution	Re-planning pedagogy and preparing programs for activities	Coordinate efforts and with the participation of the social partner.	Start of School Season	With out cost
Pupils' Parents Association	Finance and Supply Enhancement	Fund-raising for processing	During a meeting with parents	With out cost
Vocational Training Students	Construction of green and aesthetic spaces	In coordination with vocational training centres	During field education in quarterly	With out cost

	for departments and maintenance and welding of residues	as required and specialized	programme	
orientation counselor	Awareness and Psychological Counselling Courses	Collective and individual	During free sessions	without cost
university	Extensive studies on the environment and classroom engineering in order to reconfigure the building according to health and regulatory specifications	In coordination with students specializing in engineering and urban preparation according to specialization	During the Field Education for Masters Students	without cost

***Prepared by the Researcher***

### **8-Conclusion:**

School construction is no longer just a space designed to house pupils, but a set of spaces that play their respective roles in integrating and coordinating with other spaces in order to facilitate the mental, emotional and physical development of the pupil and achieve his psychological balance and enhance various aspects of his personality. The recommendations of the Arab Organization for Education, Culture and Science emphasized the importance of having in the educational building the various requirements of the

educational and the teaching process to be of high specification and quality, and to be accompanied by the needs of pupils according to their gender and educational levels. This result can be explained through the educational process in which the pupil makes an effort, whether mentally or physically such as calculations, writing a report, mixing a solution and so forth. where each is considered a duty pupil, machine, ideas and opinions, working methods system ", so that all of them operate within a single and interactive framework through a knowledge system leading to the achievement of goals. If an individual finds himself in a profession adapted to him, he or she carries out the work, tasks and activities required of him or her effectively, securely and satisfactorily. If he is found in a profession that is not adapted to him, it is very possible that his desire to work is not high, and the likelihood of him committing accidents and errors increases "( Mohamed Osman, 2004, p. 18). The infrastructure of educational institutions and the equipment available to those involved in the educational process and teaching means and techniques are also considered as criteria that can be considered as indicators of quality, as well as methods of assessment of the level of educational achievement and rates of pupils' own activities. They are inputs and processes that can be criteria for the effective provision of education. The methods of work should be preceded or accompanied by the improvement of the conditions and factors of the physical environment of work. That is, there is no use in planning or methods of education by extracting local methods to increase educational returns, while manufacturing competencies in conditions of a poor educational environment in the institution, workshop or department. A survey and assessment of the workshop's working environment must be conducted to identify existing or potential risks and prepare the venue by providing appropriate physics requirements. We should also take care of the school's healthy environment when completing educational institutions from the nature, characteristics and advantages of the building by providing it with psychological and physical health conditions to form the internal factors of the system environment.

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