

An Ergonomic Approach to Change Student Aggressive Behavior In the scholar Environment. Case study of an educational institution

مقاربة أرغونومية لتعديل السلوك العدواني في البيئة المدرسية ، دراسة حالة مؤسسة تربوية

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Abstract

ملخص

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The study drew attention to an attempt to modify the Ergonomi of a classroom site in one of the educational institutions, with a view to modifying the aggressive behaviour of students in the classroom, and improving pedagogical performance.

Experimented with a classroom that enabled us to engage pupils in physical ergonomic modification and in the way we work from excellent academic achievement as well as the absence of aggressive behaviors

Keywords: ergonomi , aggressive behavior, academic attainment, behavior modification,.

هدفت الدراسة إلى محاولة إجراء تعديل أرغونومي لموقع صف دراسي بأحد المؤسسات التربوية، بغرض تعديل السلوك العدواني عند طلبة الصف ، و تحسين الأداء البيداغوجي .

أجريت تجربة على فصل تعليمي تمكنا من خلال إشراك التلاميذ في التعديل الأرغونومي الفيزيقي و في طريقة العمل من تحصيل دراسي ممتاز بالإضافة إلى غياب السلوكات العدوانية

الكلمات المفتاحية: ارغونوميا ، سلوك عدواني، تحصيل دراسي، تعديل السلوك,

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1. INTRODUCTION

Since ancient times, human beings have been keen to improve their production and performance with the lowest costs and the least effort, drawing on a number of tools and means, which were initially sufficient to achieve their objectives. This has led them to modify their workplace and tools in a way that allows them to make maximum use of their capabilities and skills while maintaining them.

By identifying this concept, we express that sound methodology, which aims to build a healthy and highly productive workplace, which is in fact a set of techniques that brought from a number of fields for the purpose of access to security, well-being and production of good quality, which is called the Square of ergonomic.

When we talk about operators and their working environment, there is nowhere at all that cannot be adopted as an area of concern to Ergonomic, and there is no operator outside this framework. It cares for babies up to elders, women and men, large and small, and it has all its own environment, activity and helpful tools.

Given that Ergonomic is a multiple science, It aims to modify and adjust the workplace and its conditions and tools, so that it is a safe location adapted to the characteristics of the human operator, and then move to the level at which the Ergonomists believe.

Human beings themselves are part of the work, we have to deal with it as well, that is, the individual's abilities and skills are the same as the tools and methods of work. Here you should pay attention to the fact that the goal has not remained to adapt the work to the worker, but has become the goal of modern Ergonomic conditioning both the work and the worker to accomplish the task required.

From this point of view, we would like to reach out to address the subject of our study, which is to modify the aggressive behavior recorded in educated adolescents, and compensate it for an increase in pedagogical performance. When the behavior observed in school becomes aggressive, subversive and reluctant to learn, we must stop and re-examine the elements of the educational process, because inevitably there is an imbalance in one of the variables.

Especially as we are facing a very important stage in the learner's life

Childhood and adolescence are short and fast stages of time, Pupils go through very important situations that determine their course of life. So civilizations took care of it and tried to fill these periods in a way commensurate with the abilities of the child and the adolescent, It has also developed educational programs to help it avoid problems of psychosocial development at this stage. In short, the focus at this stage is on developing cognitive mental abilities to protect children from psychosocial disorders. role in protecting adolescents from the risk of delinquency in adolescence, The same study also alerted us that the majority of delinquent adolescent pupils, trying to get high personal recognition by others, and show their presence, increased aggressive behaviors. Here we had to take care of this situation and try to address it, especially after a request from the Pupils' Parents Association and the management of the institution at the perfectionist school the location of the problem. Our study was aimed exclusively at:

Study Objectives:

- Identify manifestations and causes of aggressive behaviors in the institution.
- Understand and diagnose the relationship between negative behavioral manifestations and psychological causes.
- Propose and implement indicative alternatives commensurate with students' needs (Ergonomic Amendment).
- Ensure the success of the alternative by changing behavioral manifestations from aggressive to raising their level of educational achievement.

2. Classroom environment and equipment

The classroom is the basic unit of the school, where most aspects of the educational process take place. Therefore, all pupils' psychological, health and social amenities must be created in terms of ventilation, lighting and distancing from noise with all necessary devices and means, and noting that the classroom area is appropriate for the number of pupils in order to play its positive role in the process of learning and education, There are many conditions to be met in terms of environment and equipment in addition to the foregoing: (Hariri 2011p261)

- 1/ - The classroomS door should be one meter wide and open to the outside, and the main window area should be 15% of the total room area.

- 2/- After the first class of pupils on the board: 2.50 m and the teacher's platform is 0.15-30 m at a minimum.
 - 3/- The front door should be next to the teacher for easy control while avoiding placing windows in the back of the room and close to the group of pupils sitting in the back row so as to avoid distracting them.
 - 4/- To choose the chamber floor from strong-tolerant, friction-resistant and moisture-absorbing material.
 - 5/- Protect windows from sunlight by installing metal curtains or thick fabric, while protecting ceilings from sunlight using heat-insulating materials.
 - 6/- Provide the room with tablets for pupils, both static and mobile, to use the moving type of group discussions.
 - 7/- Provide the room with a small library and, if possible, educational means.
 - 8/- Working corridors between grades sufficient for pupils' movement and allowing freedom of movement.
 - 9/- Ensure that furniture and chairs are safe and free of bumps and fractures.
 - 10/- Provide the classroom with a teacher's table containing inserts to save special papers.
 - 11/- The board must be at a height suitable for pupils' lengths, and have unimpressed homogenous lighting to avoid blurred pupils' visibility.
 - 12/- It is necessary for the teacher to organize the classroom in order to avoid conflict, poor quarterly discipline of pupils and in order not to clash with each other when leaving their places.
 - 13/- The classroom must be fully equipped and modern, and have complete hygiene and arrangement.
 - 14/- The process of assessing the learning environment in addition to the equipment and materials involves the teacher's personality, abilities and skills in the proper arrangement and management of the classroom. This is because the overall area of the learning environment can only be completed with conscious leadership capable of exploiting and employing all available possibilities to serve learners and the teaching and learning process.
- From the above we can say that in this element (classroom environment and its equipment's) many points have been exposed that contribute to the performance of the professor and the pupils of their tasks with comfort and integrity, in terms of various appropriate measurements that preserve the security of the individual within the classroom, the physical conditions (lighting, noise, ventilation), even appropriate wall colors, the quality of tables and chairs, etc.

3. Methodological aspect of the study

To work on the previous goals, we have transformed them into practical stages of behavioral modification. At this stage, we also separate the actions implemented and the reason for them:

Inventory of manifestations and causes of aggressive behavior in the institution:

We have conducted an inventory of information in the institution on the manifestations, nature and perpetrators of aggressive behavior in the institution, based on the following means:

1. Institution's data and records: complaints statements, disciplinary boards.
2. Interviews with the organization's administrative and pedagogical structure: to ascertain the size and nature of recorded aggressive behaviors, and are there other unregistered manifestations.
3. Impact Study: Focused on the manifestations of aggressive and skewed behaviors in pupils by observing the physical climate of teaching halls, the arena, by focusing on manifestations of subversion, graphics...
4. Note: Which focused on observing the behavior of pupils during admission to the institution, greeting the flag, entering the halls, leaving the halls and the institution, provided that such behaviors oppose the internal law of the educational institution.

Result:

Information showed that manifestations of deviant and aggressive behavior are manifested in:

At the professors and management level: verbal, moral and physical violence behaviors of pupils with their teachers, and with management agents, rudeness and disrespect during communication, non-compliance with the laws and instructions of the institution. Explained through the reports of disciplinary boards and penalties imposed on students.

At the pedagogical structure level: vandalism of school property (halls, chairs, tables...) by breaking or distorting the general view of the property, negative drawings...

At the level of among schools : the use of unethical words in daily dialogue, insult, school evasion, smoking and some other immoral behaviors.

The most aggressive category: or group (section) controlling as called: The most exemplified category of such behaviors, undisputed, according to records, reports and interviews with professors is one of the educational regiments that we symbolize in this experiment as XW and is a composite regiment of mostly pupils who have already failed or converted from other institutions due to their misconduct.

2. Understand and diagnose the causes of tampon with aggressive behavior:

To diagnose and understand the causes of these behaviors, we interviewed all the students in the subject Classe Room.

The objective of the interview is to learn more about the target group, break the ice, and be able to ascertain the phenomenon and know its real causes.

Method: The interviews were half-oriented, in stages according to the pupils' schedule, focused on recognizing the daily routine of the pupil, understanding their personal perception of school and learning, researching negative stimuli by calculating aggression in the school environment, why they chose aggression as a reaction, and what to wait for from others.

In addition to identifying the environment and external problems experienced by this group.

Result:

This group of pupils suffers from psychological and social problems resulting from family problems on the one hand, the impact of the social upbringing environment, the weakness or instability of the economic situation, and the existence of a negative self-perception (poor self-esteem) And the absence of what we don't say is a clear perception of the future, but rather the lack of hope for a good future, which has made these pupils look to embody models from their surroundings, through their remaining abilities, that they think make them distinct, and therefore may make up for their feelings of inferiority.

Any behavior of aggression in pupils, and given the age they live in, has become almost certain that the reason why these pupils do this kind of behavior, and in this way, is only a clear way of appearing strong personality, a psychosocial mechanic to obtain external recognition for the same pupils, or as Claude Steiner says: An individual's need for palliatives prompts him to use a strategy to satisfy this need, whereby the individual resorts to establishing a relationship with other people, who consider them an important source of refreshment. This need for palliatives obliges the individual to accept even negative palliatives. Negative palliatives are better for the individual than the lack of definitive palliatives, where the individual's loss or absence leads him to isolation and loss of desire to live. (Claude Steiner John Dusay 1977 p 68)

3. Propose and implement indicative alternatives (Ergonomic Amendment).

To propose an indicative program, you must first learn about the various possible solutions to our problem, and then study the so-called solutions economy, i.e. the solutions are more efficient, less expensive, and faster.

Given the magnitude of the problem, its manifestations, and the very sensitive stage it occupies in pupils And it's adolescence, you have very little time in this intervention. And if we want to address the causes of the problem, we can't, Because we have no authority, no quantitative and qualitative specialists, And not the time needed to change all the reasons that contributed to the problem, and this is why we are pushing for the second solution:

Find a way to strengthen pupils' personality, and change aggressive and deviant behavior as a mechanism for searching for self-esteem and evaluation by others.

Proposed solution: Since the basis of students' behavior is visibility and strength, the researcher decided to give it to them, but in another way it is focused on linking appearance and strength to learning by linking it to the classe room, and to the Classe Room group (Educational team), in order for the experimental sample to reach excellence, ensuring that they receive an excellent self-esteem, and pushing them to maintain it as:

	Observed in the study	What should be
Door	It opens to the inside.	Opens out.
	Width 1.8 m.	1 meter width 1m.
	The door on the back of the rows.	The front door next to the teacher.
Building Materials	Strong material	Strong material.
	Resistant to moisture absorption	Friction resistant
	Non-absorption and moisture resistant	Resistant to moisture absorption
	Multiple colors, many sexy, random writing drawings	The colors are suitable for vision, not tired
	No external sound insulation	External sound insulation
Windows	There are no curtains	Thick or metal cloth curtains.
	Ventilation represents 8.5% of the total area	Ventilation represents 15% of the total area.
	Lack of external lighting control	Ensure appropriate external lighting
Lighting	Heterogeneous Lighting	Homogeneous Lighting
	Poor lighting	Suitable
Pastoralist	Platform height: 0.20m.	Platform height from 0.15m 0.30m.
	Instability	Stability
	Difficulty moving due to fractures	Easy to move
Class Arrangement	After the first row for the board 1.50m.	After the first row of the board 2.50m.
	Semi-passages between rows are not	Having passages between rows is

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	enough to move easily	enough to move easily.
	There is no regulation	Classes are clearly organized
	Class arrangement by professors with difficulty	Class arrangement through pupils
	Very bad, uneducable condition	The condition of the tables is good and allows learning
Office	Fairly suitable surface	Suitable surface
	Does not contain drawers	Contains drawers
Means and Devices	There's no closet.	Bookcase and Educational Tools
	There are no books.	Books
	There are no scientific tools	Scientific Tools
Blackboard	Size suitable for writing and good vision	Size suitable for writing and good vision
	Material manufacture help to write and read	Material manufacture help to write and read
	Unclean	Cleanliness

On the physicist level first: We change smallpox to the appearance of the pedagogical hall of the experimental sample, depending on the two phases of the first phase: we make the change, on our terms and on our tendencies.

Phase 2: Involve pupils in change, and make them make formal adjustments, depending on their wishes and tendencies.

Pedagogical level:

Phase 1: Change the teaching pattern in collaboration with professors and use modern technology to ensure speed, excellence, and great impact.

As a second phase: the use of mixed task forces, where pupils are divided into teams, each team includes pupils at the various levels of achievement available in the Classroom.

2. Experiential Implementation:

classroom position before change:

In order to present the situation of the room under consideration, we will make a simple comparison between our information and what the pedagogical hall should be according to Mohsen Ali Attia (2009):

Table No. (1) Peripheral comparison of pedagogical hall structure and reality in study

From the researcher's achievement

Comment on the table: We note that all the conditions that must exist in a health department do not exist, but rather contribute poorly to affecting the psychology, behaviour and attainment of pupils in the department, and we have to modify them above all.

Phase 1: We painted the hall in sky blue, fixed the windows, table and door, colored them in crown, fixed the board, placed dark white black bars, and repaired the chairs and tables.

After use: We noticed new writings in the wall, shredding of curtains, and distortion of walls.

Phase 2: After what the pupils did, we met them again, to value their writing and graffiti abilities, and we made some negative feedback in the content of the drawing or writing, which prompted the pupils to try to modify it, which is the situation we were waiting for to push them to change.

We collectively decided to repaint the walls, but in white to allow the pupils to highlight their skills, With consultation, we decided to create a competition for the best writing and the best drawing. They put on the wall, as the schoolgirls asked us to provide bright curtains. pupils wrapped tables and dyed them in a way suitable for learning. It summarizes our role in sound insulation and always improving lighting with a subsidy from pupils.

At this stage, we noted more cooperation and homogeneity in the department, and a positive assessment of their position that made them distinct among the rest of the departments. To the extent that they determined where they stood in the arena and named it after their educational regiment, they were free to paint and identify it.

Pedagogical level:

Phase 1: We studied argonomy of the teaching method, dividing the work into parts, parts into activities, and we only kept the necessary movements. We also adjusted the pedagogical methods in line with the desired level of achievement, especially with the availability of motivation and desire of pupils. These are after adjustments:

Not to write examples on the board but to be prepared before and displayed using datachao and computer, and displayed during the course of the lesson.

The rule of the lesson is not dictated by the pupils, but by the transfer of the book.

Discuss the topics raised in the creation quota and demonstrate strengths and weaknesses.

Choose one of the topics as the best topic and post it on the board for all pupils.

Do not reprimand pupils using words and words that are not loved by them.

Finish the lesson by the end of the hour.

Pupils are not denied the prescribed rest period.

□ During discussion in one of the activities such as construction activity, the way pupils sit is changed, so that they represent cohorts and the discussion takes place between them in writing one of the subjects and the superstar pupils are distributed in each pupil's regiment so that there is intense competition among the cohorts to increase activity within the department.

Phase II: The use of mixed task forces, where we divided the pupils into teams, each team comprising pupils at the various levels of achievement available in the department, while ensuring participation in the work and consultation, and involving them in the exploitation of technology and pushing them to conduct the lesson, which allowed the emergence of so-called internal support in the teams and collaborative self-learning among its members.

4. RESULTS AND DISCUSSION

Ensure the Success of the Alternative through Pupils' Level of Educational Achievement

After applying Argonomic intervention at the general level of conditions within the classroom and at the level of the working method, a series of observations were made during the course of the study, supported by a series of interviews with Arabic language professors and students, as well as by an interview with the middle manager.

The study was conducted for 10 days after the Argonomic intervention and the period between the first and the second measurement was a full month.

The following findings were reached:

□ Active participation within the classroom by pupils through increased discussion and interaction.

□ Achieve compatibility between the time and the educational material provided (timely completion of classes).

□ The disappearance of the symptoms of boredom from the actions of the pupils as well as the professor, where these symptoms are: inactivity and vitality, the appearance of features of fatigue on their faces for the pupils, as for the professor

□ Symptoms appear in issuing violent reactions to pupils and reprimanding them using words such as: Where's your mind, idiot? Knowing that all these symptoms have disappeared.

□ Improved lighting within the section which helped improve visibility, facilitate reading,....

Ventilate the department by ensuring that windows are opened during school times that help the disappearance of disturbing odors, and get fresh and natural air.

Get rid of the problem of sensitization from sunlight through the use of curtains helps to illuminate, prevents the negative effect of the sun.

Packaging tables made pupils write on them easily, with the noise of writing disappearing making them more comfortable, as this packaging added a kind of ornamental and aesthetic class.

Pupils' participation in the use of the board by writing on it to solve exercises has helped to introduce movement into the department, and this has contributed positively to moving away from routine.

Final results:

After conducting the survey, we identified some points that we saw as not commensurate with the teacher's and pupils' assignment, compared to what was required in the conditions for the completion of an educational institution. (Medium), having conducted preliminary interviews to ascertain the impact of variables on the course of the chapter, we decided to make changes commensurate with the objective of improving quarterly performance and having made those changes, we re-examined their impact (Changes) to the department's atmosphere (professor, pupils) the results were amazing:

For Professor:

- Feeling comfortable, vibrant and active.
- Win effort and time using educational means.
- Eliminate problems of physical conditions (good ventilation, blocking sunlight, improved lighting).

For pupils:

- Improved physical conditions (lighting, ventilation).
- Eliminate daily routine and boredom using educational means (computer, datachao).
- Feeling energetic and energetic.
- Activate pupils' participation.
- The aesthetic of class.
- The disappearance of a sense of fear over the professor's backlash.
- A sense of belonging and community.
- A sense of quarterly and collective excellence.
- Improved working methods.
- Focus more during the lesson.

Through this we find that: the changes we have made to the level of working conditions (physiological, aesthetic) and at the level of the modus operandi and the means used to provide educational material, We have

found an improvement in the working environment within the classroom through the disappearance of negative symptoms that caused aggressive behaviors that disappeared altogether and compensated for behavioral and performance excellence in class, Outside of it, the emergence of a collective interaction between members of the study sample and a sense of community and excellence, This positive change has had a positive impact on the performance of the professor and the pupils through the emergence of a desire to work and competition, which demonstrates that good ergonomic design (suitable for work members) improves performance.

Comparing the study results of the school sample (pupils) between the second semester before the Ergonomic Change and the third semester after the Ergonomic Change with a view to making sure that the results obtained through this study are more positive, A growth rate of more than 3/1 over the first quarterly rates was shown And, for example, the overall rate of classroom pupils changed from 3,32 12,36 ellies after only one semester.

5. Bibliography List :

- 1- Wisler. (1995). *Reffexions sur l'ergonomie. Touloure octarés.*
- 2- Clande, J. (1980). *La psychologie en ergonomie. Presses univeritaires. (1er.tirage).Paris.*
- 3- Danielon, F.Béguin. (2004). *Méthdologie de l'action ergonomique. Approches du travail reel. Dans falzon ergonomie. Paris.*
- 4- Danielon, F.Béguin. (2004). *Méthdologie de l'action ergonomique. Approches du travail reel. Dans falzon ergonomie. Paris.*
- 5- Faverge. Leplat, J.M. Guignnd, J.Z.B. (1958). *L'adaptation de la mochine à l'homme. Paris*
- 6- Lavill, A. (2004). *Repères pour une histoire de l'ergonomie francophone dans. Falzon (Ed) ergonomie. Paris*
- 7- Baron, X.Bean, P. (2000). *les ressources humaines. (2^{eme} tirage). Paris.*

8- عوامل الإنسان (2006) استرجعت بتاريخ 2011-12-03 من

<http://www.preventicq.com/docs/self-07-06-pdf>

- 9- <http://jcom:jenne.com/article.metier/ergonomie>.

- 10- SZEKELY J - *L'évaluation de la charge mentale dans le cadre de l'étude et de l'aménagement des conditions de travail. Théorie, mesure, application. Vandoeuvre lès Nancy, INRS, note scientifique et technique*

- 11- Sperandio, J.-C. (1980). *La psychologie en ergonomie*. Paris : PUF
- 12- ESTRYN-BEHAR M, FOUILLOT J. P. *Etude de la charge mentale et approche de la charge psychique du personnel soignant*. INRS DMT42TL6
- 13- http://www.inrs.fr/hm/etude_la_charge_mentale_approche_la_charge.html
- 14- *Charge mentale Institut Universitaire de Médecine du Travail de Rennes2, avenue du Pr. Léon Bernard, CS 34317, 35043 Rennes Cedex mis à jour le 11 octobre 1999.*
- 15- http://www.med.univ-rennes1.fr/resped/s/medtra/charge_mentale.htm
- 16- Piolat A. *Charge mentale et mobilisation des processus rédactionnels: examen de la procédure de Kellog, Psychologie Française*. - N°41-4, 1996, 339-354 <http://www.up.univ-mrs.fr/wpsycle/documentpdf/documentpiolat/Publications/PiolatEtalPF1996.pdf>
- 17- *Fiabilité, validité, sensibilité et diagnostique des mesures de la fréquence cardiaque et de la variabilité de la fréquence cardiaque comme indicateur d'astreinte psychique (charge mentale), Peter Nickel, Karin Eilers, Liane Seehase, Friedhelm Nachreiner ZEITSCHRIFT FÜR ARBEITSWISSENSCHAFT, <http://www.zfa-online.de/kurzfassung/kurzfassung.htm>*
- 18- Présenté par M. LIBGOT <http://www.cometefrance.com>
Claude Steiner(1974) :Des scénarios et des hommes Epi.
- 19- Claude Steiner(1984) :*Le conte chaud et doux des chaudoudoux Paris Inter Editions.*
- 20- Claude Steiner(1992) : *Des scénarios et des hommes, Desclée de Brouwer.*
- 21- Claude Steiner(1998) :*1 L'ABC des émotions InterEditions.*
- 22- Claudie Ramon (1989): *Grandir Ed La Méridienne .*
- 23- Colette Esmenjaud, (2010/1) « *Psychogénéalogie et psychodrame : la danse des origines* », *Actualités en analyse transactionnelle* (N° 133), p. 1-13.
- 24- *Commonsienne : l'analyse transactionnelle de la relation salariale Revue Interventions Economiques , Retrieved novembre 9 ,2014 from <http://interventionseconomiques.revues.org/1254>*