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PSYCHOPHYSICAL MEASURES FOR EFFICIENT ERGONOMICS IN THE OFFICE

Case
Study

Keywords

*Ergonomics,
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Psycho-physical exercises,
Office*

Abstract

In the working environment of the modern man, where the junction man-machine is a system that aims at achieving professional success, the ergonomic measures are increasingly promoted. These measures come after waves of complaints from the employees who often accuse psycho-physical fatigue. In this paper we will present a series of psychophysical techniques designed for those employees who work in an office. The examples are built on patterns existing in the physical exercise practice and mental theatre training used by some of the greatest teachers of theatre in the world. Alternating these types of physical and mental exercises, adapted for office work, can visibly improve the health of the employees

INTRODUCTION

Ergonomics is an interdisciplinary science that integrates information from the fields of: technical sciences, psychology, physiology and hygiene. In this article we bring informative notes from the fields of psychology and behavioral sciences that themselves contain components from physiology and hygiene.

Office work generally presents a mental work that intensely stresses the mental capacities of the worker at the expense of the muscle mass of the body. Being inspired by mental exercises initiated by actors and theatre teachers over the world, we have put together several types of exercises and adapted them to the specific work in the office. The exercises which we will present in the following pages come to complete the program of organizing ergonomics at the working place.

Psychophysical ergonomics measured in the office may be supported characteristics that already exist in this work environment:

- Requests for physical and mental effort, often exacerbated by poor technical equipment;
- The increased number of operations that the workers must carry out;
- The atmosphere at the workplace (collegial relationships and those with the customers);
- Overuse of human potential when you goal has to be reached immediately.

International Ergonomics Association (I.E.A.) divides ergonomics in three fields (Tache, 2010).

Physical Ergonomics – refers to the employee's anatomical characteristics: anthropometric data, physiological and biomechanical related to physical activity; posture during work, handling of objects; the physical movements that are used; the health of the employees.

Cognitive ergonomics - studies the mental processes such as perception, memory, judgment and motor responses; human interactions and elements of the system; mental/intellectual overuse; decision making; employee's confidence; stress as a result of work and related conjunctures.

Organizational ergonomics - deals with the optimization of socio-technological systems, including their organizational structures, rules and processes: communication, resource management in a team, design or structure of the job, the structure of the working hours, teamwork, participation scheme, ergonomics of the community, work in cooperation, new programs of work, virtual organization, telework and the quality of the management.

In our article we will refer to the first two types of ergonomics.

AIM

The aim of this paper is to make known the psychophysical recovery methods for persons who work in an office.

The novelty of this paper is given by the mental preparation methods used in theatre, adapted to the specificities of office work.

METHODS

1. Cognitive Ergonomics - Theatrical mental exercises meant for the employees in an office

The overuse of the psychological qualities prevails over other requests, so we will first present means of psychological recovery.

Vs. Meyerhold, Russian actor, theatre director and filmmaker (1874-1940) believed that the art of the future will be seen “no longer as a curse, but as a joyful vital necessity” (Meyerhold, 1968). He conceived biomechanics for a utopian society of the future, where the work will need to assist the worker in the sense that the actor will work for pleasure and not forced by needs. Meyerhold is famous for biomechanics, because he emphasised the idea that labour has to help the worker, not to exhaust. The basic principles of his method were related to the analysis of the mechanical movements during labour. Thus he recommended:

- to eliminate unnecessary and clumsy movements from the labour process;

- to develop the most efficient processes for physical labor;

- to introduce the best calculation systems;

- mental relaxation by inducing pleasant memories.

Exercise 1: developing the men's capacity to express their work (creation) being aware of the body and its movements;

- Different body positions and physical states that stimulate the emotions of a feeling. Seated or standing must be carried out ample breathing movements and states of joy, of good state in general, are recalled. The generated mental status must be acknowledged and transmitted to the entire body. Thus the muscle relaxation is also achieved.

Michael Chekhov, Russian actor, director and writer, grandson of the great writer Chekhov points out the importance of atmosphere in stimulating the affection. In this regard, he gives some recommendations:

Exercise 2: create a working atmosphere that will inspire the worker through various stratagems (decoration with cheerful objects, music, jokes, clothing).

Exercise 3: affective experience based on imagination. It is about the mental ability to imagine situations, things, pleasing actions.

Exercise 4: “The wealth of self psychology” - developing a psychology of self through the

harmony between mind and body. Intuiting thoughts or good opinions regarding the people around us. Thus it is acquired the ability to analyze gestures, thoughts, words, situations closer to the existing truth.

Exercise 5. Complete subordination of the body and the psyche by the individual by practicing awareness of each movement and sensation. All movements must be actually ordered, not to make unnecessary efforts.

Exercise 6. Focus on the attention. "Do not allow your attention to deviate you from a given task" - says this great play writer.

Exercise 7. Imagine that you see in the person next to you the one you wish to see!

Exercise 8. Combining the spontaneous impulses with breathing gives the feeling of freedom, controlling the body; but the interconnection between thoughts, movements, feelings and sensations determines the involvement of all components of the body in action. In exercise VII from Michael Chekhov's course, he asks: "Imagine that in the chest is a centre from which all the impulses to move come from. Send this energy to the head, arms, hands, torso and legs" (Chehov, 1958).

Michael Chekhov emphasizes the importance of the awareness of all the involved body components. Every gesture, thought, image or movement should be acknowledged, willingly conducted. Chekhov believed in movements that produce sensations and stimulate the imagination. It's obviously a feedback process between the inside and the outside of the human body.

All the body components interact, forming a whole, being a clearly defined harmony.

K.S. Stanislavski, considered the greatest man of theatre, teacher of the two authors mentioned above, actor, theatre director has written his method of training in the work entitled "An Actor's Work on Himself". His methods are practiced in the most important theatre schools in the world.

The most significant and widespread method in the world, regarding the mental, training is transposed by us in the following exercise:

Exercise 9. Reaching an intense inner feeling with the help of emotional memory and the five senses. In the emotional memory are stored all the feelings that the individual has lived at some point during his life and which he can relive once he remembers them. Remembering has effects on the external level as well. A shameful memory can make the individual blush and a happy memory - smile.

The mental exercises through which a person is drawn into the subjective world through feelings, directing his energy on the control of the feelings on the imagination level make him disconnect from the stress caused by professional overwork.

2. Physical Ergonomics – Posture exercises for employees in the office

Posture physical exercises are recommended in case spine deficiencies (scoliosis, kyphosis, lordosis, etc.). Working in the office involves static positions (seated on a chair) for a long time and only few muscle groups are used. The physical exercises that we describe are easy to carry out, do not require a dedicated space and are easy to remember.

Exercise 1. Replacing the office chair with a gym ball for 2-3 hours per day, 2-3 days per week. This requires a great part of the muscle groups, especially the abdominal and back muscles in order to maintain the body balance.

Exercise 2. Lift up your feet and then sit without support from your hands. 5 exercises every hour of work.

Exercise 3. From seated, raise arms stretched over your head, with a slight extensions. The head is in extension, the back straight. Maintain 10 seconds, and repeats 3-4 (Fig. 1).

Exercise 4. From the seated position, move your hands joined together behind your neck, arms in extension. Make lateral inclination left-right. (Fig. 2).

Exercise 5. Seated in a chair, with your back straight, grab your shoulders tight (left hand right shoulder and vice versa). Hold 10 seconds. 3-4 repetitions. (Fig. 3).

Exercise 6. Seated in a chair, move your palms to the lumbar area and pull your elbows far back. Maintain 10 seconds. 3-4 repetitions. (Fig. 4).

Exercise 7. From seating position, lift up your arms stretched, hands joined together. Left-right inclinations, hold 3 seconds, 2-3 repetitions (Fig. 5).

Exercise 8. From seated with your back straight, your stretched arms get back down. Stretch and maintain 7-8 seconds, then relax. 3 repetitions (Fig. 6).

Exercise 9. From seated, lift the legs stretched out to 90 degrees. Hold 4-5 seconds. 3 repetitions. (Fig. 7).

Exercise 10. Same position as in exercise 9. Carry out shearing with the legs stretched, up and down. 10 repetitions. (Figure 8).

Exercise 11. Seated on the seat, hands joined together behind your neck, elbows in extension, bend and twist your trunk: take your left elbow to your right knee, and vice versa. (Fig. 9).

DISCUSSIONS

A relatively new area in which is required an efficient organization of ergonomics is the office. The ergonomic approach of the activities, mentally and physically, increases the quality of work.

A valuable definition of the subject of ergonomics comes to reinforce our contribution through this paper: “organizing the human activity in the labour process by optimizing the relationship of man-machine-environment system, aimed at improving the technical and economic efficiency, optimization of satisfaction, motivation and results of the work, while maintaining and fostering good physiological personality development” (Moldovan, 1993).

The mental and physical methods (exercises) presented by us are easily accessible and do not have negative influences. Our recommendations are addressed to all persons who wish to improve their physical and mental health affected by a typical demanding work, regardless of the field.

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ANEXES



Fig.1(ex.3)



Fig.2(ex.4)



Fig.3(ex.5)

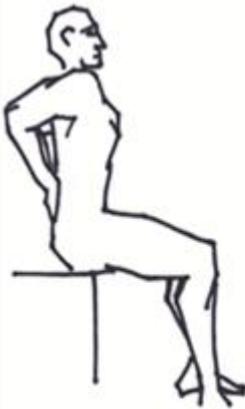


Fig. 4 (ex. 6)



Fig. 5 (ex. 7)



Fig. 6 (ex. 8)



Fig. 7 (ex. 9)



Fig. 8 (ex. 10)



Fig. 9 (ex. 11)