



Use Of Ergonomics In Sports

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Abstract:

Ergonomics derives from two Greek words: ergon, meaning work, and nomoi, meaning natural laws, to create a word that means the science of work and a person's relationship to that work. Ergonomics is the science of making things comfy. However for simplicity, ergonomics makes things comfortable and efficient.

At its simplest definition ergonomics literally means the science of work. So ergonomists, i.e. the practitioners of ergonomics, study work, how work is done and how to work better.

It is the attempt to make work better that ergonomics becomes so useful. Ergonomics is commonly thought of in terms of products. Ergonomics helps define how it is used, how it meets your needs, and most importantly if you like it. It makes things comfy and efficient.

Ergonomists apply human sciences to people in the working environment. Safety is paramount if training is to be effective and injuries often result from faulty techniques, equipment or training programmes.

Ergonomics can help you in many ways. One of the best benefits of ergonomics is saving time. Ergonomics is about making things more efficient

DEFINITION OF ERGONOMICS

Ergonomics derives from two Greek words: ergon, meaning work, and nomoi, meaning natural laws, to create a word that means the science of work and a person's relationship to that work.

The International Ergonomics Association has adopted this technical definition: ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.

That is not the most efficient definition of what ergonomics is. Let us keep things simple. Ergonomics is the science of making things comfy. It also makes things efficient. And when you think about it, comfy just another way of making things efficient. However for simplicity, ergonomics makes things

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comfortable and efficient.

WHAT IS ERGONOMICS?

At its simplest definition ergonomics literally means the science of work. So ergonomists, i.e. the practitioners of ergonomics, study work, how work is done and how to work better.

It is the attempt to make work better that ergonomics becomes so useful. And that is also where making things comfortable and efficient comes into play.

Ergonomics is commonly thought of in terms of products. But it can be equally useful in the design of services or processes.

It is used in design in many complex ways. However, what you, or the user, is most concerned with is, "How can I use the product or service, will it meet my needs, and will I like using it?" Ergonomics helps define how it is used, how it meets your needs, and most importantly if you like it. It makes things comfy and efficient.

ERGONOMICS IN SPORT

Ergonomists apply human sciences to people in the working environment. This environment can extend to professional sports as well as leisure and recreation contexts, where all the fundamental ergonomic principles can be applied.

The intensity of exercise can be monitored to ensure that the athlete is not over or under-loaded. Safety is paramount if training is to be effective and injuries often result from faulty techniques, equipment or training programmes.

It is often impractical to study ergonomics during actual sports competitions, so simulation of a task or activity is important. Such simulations can reduce the cost and risks associated with introducing ergonomic interventions in the real world.

WHAT IS COMFORT?

Comfort is much more than a soft handle. Comfort is one of the greatest aspects of a design's effectiveness. Comfort in the human-machine interface and the mental aspects of the product or service is a primary ergonomic design concern.

Comfort in the human-machine interface is usually noticed first. Physical comfort in how an item feels is pleasing to the user. If you do not like to touch it you won't. If you do not touch it you will not operate it. If you do not operate it, then it is useless.

The utility of an item is the only true measure of the quality of its design. The job of any designer is to find innovative ways to increase the utility of a product. Making an item intuitive and comfortable to use will ensure its success in the marketplace. Physical comfort while using an item increases its utility.

The mental aspect of comfort in the human-machine interface is found in feedback. You have preconceived notions of certain things. A quality product should feel like it is made out of quality materials. If it is light weight and flimsy you will not feel that comfortable using it.

The look, feel, use and durability of a product help you make a mental determination about a product or service. Basically it lets you evaluate the quality of the item and compare that to the cost. Better ergonomics mean better quality which means you will be more comfortable with the value of the item.

WHAT IS EFFICIENCY?

Efficiency is quite simply making something easier to do. Efficiency comes in many forms however. Reducing the strength required makes a process more physically efficient. Reducing the number of steps in a task makes it quicker (i.e. efficient) to complete. Reducing the number of parts makes repairs more efficient.

Reducing the amount of training needed, i.e. making it more intuitive, gives you a larger number of people who are qualified to perform the task. Imagine how in-efficient trash disposal would be if you're teenage child wasn't capable of taking out the garbage. What? They're not? Have you tried an ergonomic trash bag?

Efficiency can be found almost everywhere. If something is easier to do you are more likely to do it. If you do it more, then it is more useful. Again, utility is the only true measure of the quality of a design.

And if you willingly do something more often you have a greater chance of liking it. If you like doing it you will be more comfortable doing it.

So the next time you hear the term ergonomics you will know what it means to you.

Ergonomics can help you in many ways. Among other things, it can benefit your life, health, productivity and accuracy. One of the best benefits of ergonomics is saving time. We never seem to have enough of it as it is, so why not try to get a little more out of your day?

Ergonomics is about making things more efficient. By increasing the efficiency of a tool or a task, you tend to shorten the length of time it takes to accomplish your goal.

So how can we capture the time saving benefits of ergonomics? We can conserve our valuable time with the application of good ergonomic practices in three main areas:

SLIM DOWN THE TASK

Have you ever wondered why some things are so convoluted, cumbersome and chaotic? They take forever to complete. And most of what you do does not aid the outcome.

For example, think back to the last time you got hired for a job, bought a house or car, or did something else that required a ton of paperwork. How many different forms did you write the same information on? That was not very ergonomic.

You can almost always make a task a little leaner. But first you have to understand the task. For that we use a task analysis.

Pick any mundane task you typically do at least once a week. Write out a task analysis for it. Don't worry about wasting your time doing this. You will make it up with the time savings you create.

Once you have all the steps written out, you need to take a good look at them and identify areas that you can "ergonomize":

Repetition – Look for steps that are repeated and see if they are all necessary.

Order – See if you can re-order the steps to optimize your effort.

Synergy – Can you combine things or somehow get more bang for your buck?

Value Added – Look at every step and make sure it adds value to the outcome. If it doesn't, cut it.

Necessity – Make sure the quantity of the step is needed. Do you really need to brush your teeth with 57 strokes, or will 32 do?

CONCLUSION:

"The fact is," according to Franz Schneider, "that healthy people work better and sick people perform poorly. Sports medicine physicians know all too well just how difficult it is to win with a team of injured athletes." Thus the quality of the physical work environment is analogous to an athlete's running shoes. "If the shoes fit the athlete and are correct for the sport, they will enhance the athlete's performance; however, if they are the wrong size or don't fit the requirements of the sport, performance may be reduced. In the short term, the wrong shoes may be a hassle or contribute to pain, but the long term effects may result in foot deformities." Therefore, practicing proper ergonomics forms an integral part in the field of sports.

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