

Ergonomics revisited By Rani Lueder, CPE

An ergonomist thinks aloud...

All happy families resemble one another, but each unhappy family is unhappy in its own way.

—Leo Tolstoy, *Anna Karenina*.

To wit: *All [good] ergonomists resemble one another, but each [bad or pseudo] ergonomist does so in its own way.*

THESE ARE STRANGE TIMES FOR ergonomists. The science of ergonomics is making tremendous advances and contributions to the research. Yet never before has there been such a widespread and growing disconnect between HF/Ergonomists and public perception of the discipline.

PLEASE stop telling me that ergonomics is a “buzz word.” Some have always sought protection in numbers as a shield from critical thinking. Repeat this mantra enough times and it takes on a life of its own.

Part of this confusion stems from claims by those with agendas. One political party systematically disseminates disinformation to kill ergonomics legislation in much the same way that tobacco companies spewed disinfor-

mation about the tobacco research.

Confusion is also magnified by some manufacturers and dealerships who repeat in mantra-like fashion that ergonomics means all things to all people. This perpetuates a vast amount of misinformation about ergonomics and product design (e.g., the mythical one-inch range of lumbar heights in the population).

Perhaps this is because these dealers are unfamiliar with the research. Perhaps this process resembles the “whispering circle” game, where the last person in the circle

hears a quite different story from the first. Perhaps it reflects ordinary selective attention—each of us tends to remember what conveniently fits our worldview.

We are also to blame. As in every science, bad ergonomics research happens—though less so in peer-reviewed journals. As in every scientific discipline, it can take years for some to recognize that research disproved prevailing paradigms or dogma. Then, there are the beginners—I wince at some things I wrote 25 years ago.

Bad research is unfortunate, but one can find this in every field. Should we therefore assume that every area of science is invalid? I suggest any science (including ergonomics) is best understood by looking to the best and the brightest in the field. This research and these researchers break through barriers to illuminate the way for the rest of us.

Another source of confusion is that so many people with so many different specialties call themselves ergonomists. Although ergonomics interfaces many disciplines, it is a clearly defined



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discipline with commonly recognized principles.

There is an important distinction between ergonomists and practitioners from medical backgrounds such as PTs, OTs and Chiropractors. Each of these disciplines emphasize different journals, conferences and databases, typically to the exclusion of the other.

More importantly, these disciplines are centered in the medical paradigm. In contrast, Human Factors/Ergonomists peer through the filter of experimental and applied research. This is why one can find medical journal articles about a single case. Such research is impossible for ergonomists; an “n of one” is a statistical impossibility.

This distinction is crucial in understanding differences between the disciplines—and why at times the ergonomics research **directly contradicts** the principles and guidelines of these other disciplines.

None of these disciplines is consistently more accurate. I wish more of us had the background of other disciplines. Yet there are times when the Human Factors/Ergonomics paradigm is more appropriate for solving a need—while at other times a different paradigm may create a better fit. Light is sometimes best understood as a particle, at other times as a wave.

The onus is on each of us to evaluate how our knowledge base fits, which paradigm is appropriate for a situation, and how we can learn from each other. That is a tough call but it is critical that we do so. Where professionals maintain their own integrity,

they add to the depth and breadth of assistance available to each other and to industry.

However our hands play out, good research—and good ergonomists—may use different tools and ask questions in different ways, but they reflect common understanding and values of what ergonomics is about.

Rani Lueder, CPE has consulted in Occupational Ergonomics for 20 years. She is President of Humanics ErgoSystems, Inc. in Encino, CA. She can be reached at (818) 345-3746 and www.humanics-es.com.

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