

“YES, I DO ERGONOMICS”

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ABSTRACT

The current general understanding of what ‘ergonomics’ is and the field of application that it is relevant to, is considered by some local ergonomists to be very poor – particularly among the general New Zealand public. ‘Ergonomics’ is commonly perceived to be limited to ‘physical fit’ or ‘workstation layout’, without knowledge of the breadth of the field. This paper discusses these issues and suggests positive approaches to address the ‘problems’.

INTRODUCTION

At a recent meeting of an ergonomics Professional Development Forum (PDF), the issue of poor ‘general public’ and New Zealand Ergonomics Society (NZES) member understanding of the breadth of the ergonomics practise field was raised. PDF members gave many examples of misunderstandings at both these levels. It was felt that this limited understanding, particularly within members of the society, did little to promote the sound practise of ergonomics in New Zealand.

This paper reviews use of the words ‘ergonomic’ and ‘ergonomics’, and goes on to explore some strategies that may be used to accurately present the field of ergonomics and its practise to varied audiences.

‘Ergonomic’ or ‘ergonomics’?

Confusion abounds as to the correct use of ‘ergonomic’ and ‘ergonomics’. Gardner Wood (2002) stated that the terms ‘are not able to be used inter-changeably’, and encouraged all ergonomics practitioners (both professional ergonomists and those from other fields) to use the terms accurately. Gardner Wood summarised the meanings and use of these words as follows:

“Ergonomics is a noun and refers to the practice of ergonomics. Therefore an ‘ergonomics checklist’ is a list of points to consider concerning the relevant ergonomics of any particular system, task, object, or environment, but the checklist itself may not have been ergonomically designed.

Ergonomic is an adjective and refers to the inherent attributes of a task, object or environment, therefore an ‘ergonomic checklist’ is one that has been designed using the principles of ergonomics, but the target of the checklist may be nothing to do with ergonomics”.

Edwin (2005) further suggests that ‘ergonomics is one of those words that the more you learn about it, the more you realise that to be accurate, other words should be used instead.’ When planning to use the words ‘ergonomic’ or ‘ergonomics’ Edwin advocates that you think very carefully and perhaps choose a more descriptive word. Such as replacing ‘ergonomic workstation assessment’ with ‘computer workstation assessment’, and ‘poor ergonomics’ with ‘it’s design makes it difficult to use (in a certain way)’. When writing project proposals, the word ‘ergonomics’ may not be used at all – it may be too vague, and other more descriptive, specific and better-understood terms can be used for better results.

Ergonomics and the general public

There is a common belief that ergonomics is ‘about workstations’ or about chairs’ or is ‘something to do with health and safety’ - that is if Joe Public admits to knowing *anything* about the field. Advertising for ‘ergonomically designed’ products such as furniture, toothbrushes, kitchen implements, tools and even deodorants fuels this. Items marketed as ‘ergonomically designed’ offer reassurance that it is ‘good for you’ and will be better/easier to use. The term ‘ergonomically designed’ appears to have become overused and therefore somewhat meaningless within the advertising genre. It certainly appeared misunderstood by the office furniture store that recently marketed via a large window sign, ‘*ergonomical (sic) chairs*’...

To understand why the general public does not understand ergonomics, we must first see our occupation in context. Does anyone outside *any* field really understand what is involved? For example nurses may be offended by the belief that they simply empty bed-pans, physiotherapists may be annoyed by the public thinking they give back rubs, and who really knows what scientists do?

A suggested action for dealing with the ‘general public’ understanding of ergonomics is to point out that it may not really matter! Given that misunderstanding of specialised fields of work is very common, we should simply ‘not sweat the small stuff’. However if someone asks in a social situation, a suitable ‘pub definition’ of the field of ergonomics might include words such as ‘study of humans’, ‘workplaces’, ‘design of ‘things we use’, ‘for best human fit’, and ‘using knowledge of body size etc, and how we think/act’. The goal is audience appreciation that ergonomics is about more than just toothbrush, chair, and computer gear advertising, and perhaps more than just *physical* fit.

As individuals, we can also remove from our own communications the words ‘ergonomically designed’ or ‘ergo-anything’ to stop misleading the public that ergonomics is synonymous with ‘adjustment’ (usually lots), ‘moulded’ things (like mice or seats), or ‘weird things that should be better for us’ (e.g. divided and strangely angled keyboards, and various kitchen implements or tools).

Taking this relaxed approach may however be inappropriate for those that should have a greater understanding of the practice of ergonomics. This group includes human resources and health and safety personnel, a range of medical and para-medical professionals, designers and educationalists and government advisors. We shall label this group the ‘professional audience’.

Ergonomics and the professional audience

Managers, human resources or health and safety personnel, occupational physicians, physiotherapists, occupational therapists and occupational health nurses, engineers, designers, marketing personnel, those in related university/education roles, and other

such as those reviewing our funding agency applications, form a smaller group whom ergonomists may believe need a better knowledge of the field of ergonomics. However these individuals might still have a limited view of the scope of the field particularly and this limitation in their knowledge may have knock-on impact for our own practice.

We are likely in more regular contact with these people, or have the opportunity to develop and nurture such contacts. It is suggested that in ALL your communications with this group that you ensure clear and accurate messages regarding the field of ergonomics (or human factors). This may include that:

- It is person and population centred.
- That professional ergonomists have specific and formal (university based) education in the field - it is not just a short course, or part of another course.
- That ergonomics knowledge areas include (but are not limited to) cognitive processing, psychology, environmental issues (heat, cold, vibration etc), design processes, as well as physiology and anatomy.
- Uses 'macro' (whole system) as well as 'micro' (local task) approaches.
- That ergonomists use tools/methods not common to other disciplines.
- It is a science with practical design outcomes.
- It is not limited to application in the workplace.

Remember that with only around a dozen Certified New Zealand Ergonomists, many people will not have the chance to 'rub alongside' professional ergonomists, and may therefore have little opportunity to gain a thorough understanding of the work that can be/is done. We all have our own limited range of experiences, and until they are expanded upon... they remain limited. It behoves us to seek to expand our own knowledge, to pass on our own knowledge of ergonomics, to clarify misunderstandings, and to promote the accurate application of ergonomics - *at all possible opportunities*. This might be in the tea-room, mid-meeting, in a written proposal, or in a verbal or written report.

You may be able to meet with professional groups such as local occupational therapists, physiotherapists, occupational health nurses, ACC staff, architects, engineers etc, to present or discuss the differences in practise between ergonomics and that professional group. Opportunities to provide education to relevant community groups may occur, and conference presentations and publishing in journals, industry magazines, professional newsletters, newspapers and other media may reach a broader audience. The key recommendations are NOT to let an opportunity slip by, and to ensure that accurate information is given. NZES could develop educational handouts and presentation materials suitable for member's use.

NZES members have an ergonomics knowledge range that is from somewhat better than that of 'Joe Public'... through to expert knowledge. Many NZES members may work in an area that is perhaps part of broader 'systems ergonomics' such as computer workstation assessments, design modifications for injured workers, psychology fields, school furniture etc. Without edification on the full scope of ergonomics these NZES members may not realise that they have a limited view of the field - particularly if this notion is compounded by health and safety, management or other staff that they work with. Conversely, these individuals may be well aware that they are working in 'splinter field' of ergonomics, and enjoy the opportunity to learn more.

NZES should perhaps provide more 'general education' opportunities such as lectures at area meetings, day seminars, or separate workshops at conferences. Education

sessions could explore common ergonomics practise pitfalls such as ‘adopting a narrow perspective of work systems’, and ‘focussing on health and safety rather than overall system performance’ (Tappin and Moore, 1997).

Ergonomics and ergonomists

A practical concern for ergonomists is the problem that arises when applying for funding from agencies where those people that review the applications appear to have a somewhat limited or skewed view of the field of practise. This may impact negatively on both the livelihoods of ergonomists and the potential for application of ergonomics in an appropriate and wide range of practise areas. It may be important for such funding applications that words such as ‘ergonomics’ or ‘human factors’, and even ‘ergonomists’ are *not* in fact used, but that more careful descriptions of the activities are provided. This should result in less misunderstanding.

Parker, of COHFE (Centre for Human Factors and Ergonomics) notes that to be credible and understood within an organisation that is science focussed, COHFE ergonomists refer to themselves as ‘human factors scientists/researchers’. Parker was clear that at no time do they misrepresent ergonomics or their field of expertise, but that in marketing and promoting themselves, other terms are preferable. Parker reports that another successful ergonomics education strategy was the wide circulation of a brief and colourful document summarising current ergonomics research projects, and giving an overview of the breadth of COHFE’s research fields. (COHFE, 2005).

CONCLUSION

The promotion of accurate messages about ergonomics is the responsibility of all professional ergonomists and NZES members. A number of strategies for the clear and correct presentation of ergonomics to various audiences are outlined. These include the correct use of ‘ergonomic’ and ‘ergonomics’ at all times, and accepting that within the marketing and advertising fields, ‘ergonomically designed’ has become somewhat overused and meaningless. We should recognise that any specialist field has common misconceptions, and learn to ‘let go’ the situations that are not critical. We must then make the most of all opportunities to promote and educate regarding ergonomics, especially to those from ‘professional audiences’ that may have more direct impact on how ergonomics is practised. NZES may have a role in the provision of resources to assist the promotion of accurate messages to varied audiences. Professional ergonomists have considerable responsibility to ensure clear messages about ergonomics, and may have additional opportunities to educate those they come in contact with. Whilst we need to ‘choose our battles’ it is essential that we do not let the important opportunities slip by.

References

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