

Research within the context of Socio-Technical system: search for an appropriate model

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Abstract

Training within an industrial context is a complex, technologically sophisticated and interdependent activity. This means, firstly, that predicting the effect of any new influence; such as new technology, new training methods etc. will be difficult because it will interact with so many diverse factors. Secondly, it means that even when the effects are predicted, the difficulty is not removed, because the effects are so varied and so disparate that weighing the balance of advantages can be extremely difficult.

This uncertain interdependence of such large numbers of difficult-to-define, difficult-to-measure variables places extraordinary demands on the cognitive capabilities of the professional operator, policy maker and the researcher. The technically trained professional can no longer operate in a vacuum, making decisions in an abstract supposedly 'objective' way. The key issues in such projects are the wide variety of groups which typically will be effected, and the fuzzy ill-structured and necessarily ill-defined nature of the issues involved. I begin this paper by an attempt to describe why socio-economic systems- of which industrial training system is one- requires a model for research which is 'holistic', capable of handling changes and 'applied'. Then I set out to explain the concept of 'systems thinking', and suggest that an approach based on the concept of 'system thinking' could provide an appropriate model for research in the context of socio-technical systems. Finally, I attempt to construct a framework for research based on 'system approach' to help establish a basis within which a more effective industrial training system can be established which is understood and supported by all the stakeholders.

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