



# Kinesiology Clinical Neuropsychology, Psychophysiology and Temperament

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#### Abstract

Learning outcomes as a concept has encountered a revival since the beginning of the Bologna process in 1999. The concept itself has a longer history with its roots in the behaviourist tradition of the 1960s. The goal of this review is to study how the historical roots of learning outcomes are noted in current research articles since the launch of the Bologna process and whether the concept of learning outcomes is used critically or uncritically. The review of 90 articles shows that the behaviourist tradition is still evident in the 21st century research with 29% of the articles directly and 11% indirectly referring uncritically to the respective publications or to the behaviourist epistemology. Only a minority of the articles, i.e. 8%, was found to be critical towards the behaviourist meaning of learning outcomes.

Keywords: Animal psychology; Ethology; Professional ethics; Anthropomorphism

# Introduction

This paper critically reviews the one-dimensional construct of General Arousal as utilised by models of temperament in differential psychology for example, to underlie 'Extraversion'. Evidence suggests that specialization within monoamine neurotransmitter systems contrasts with the attribution of a "general arousal" of the Ascending Reticular Activating System. Experimental findings show specialized roles of noradrenaline, dopamine, and serotonin systems in hypothetically mediating three complementary forms of arousal that are similar to three functional blocks described in classical models of behaviour within kinesiology, clinical neuropsychology, psychophysiology and temperament research. In spite of functional diversity of monoamine receptors, we suggest that their functionality can be classified using three universal aspects of actions related to expansion, to selectionintegration and to maintenance of chosen behavioural alternatives.

#### Discussion

Monoamine systems also differentially regulate analytic vs. routine aspects of activities at cortical and striatal neural levels. A convergence between main temperament models in terms of traits related to described functional aspects of behavioural arousal also supports the idea of differentiation between these aspects analysed here in a functional perspective. Psychologists in the early years of the discipline were much concerned with the stimulus-error. Roughly, this is the problem encountered in introspective experiments when subjects are liable to frame their perceptual reports in terms of what they know of the stimulus, instead of just drawing on their perceptual experiences as they are supposedly felt. "Introspections" psychologist E. B. Titchener and his student E. G. Boring both argued in the early 20th century that the stimulus-error is a serious methodological pitfall. While many of the theoretical suppositions motivating Titchener and Boring have been unfashionable since the rise of behaviourism, the stimulus-error brings our attention to one matter of perennial importance to psychophysics and the psychology of perception. This is the fact that subjects are liable to give different kinds of perceptual reports in response to the same stimulus. I discuss attempts to control for variable reports in recent experimental work on colour and lightness constancy, and the disputes that have arisen over which kinds of reports are legitimate. Some contemporary psychologists do warn us against a stimulus-error, even though they do not use this terminology. I argue that concern over the stimulus-error is diagnostic of psychologists' deep theoretical commitments, such as their conception of sensation, or their demarcation of perception from cognition. I conclude by discussing the relevance of this debate to current philosophy of perception. We draw on recent accounts of social epistemology to present a novel account of epistemic cognition that is socialised [1-4].

In developing this account we foreground the: normative and pragmatic nature of knowledge claims; functional role that 'to know' plays when agents say they 'know x'; the social context in which such claims occur at a macro level, including disciplinary and cultural context; and the communicative context in which such claims occur, the ways in which individuals and small groups express and construct (or co-construct) their knowledge claims. We frame prior research in terms of this new approach to provide an exemplification of its application. Practical implications for research and learning contexts are highlighted, suggesting a re-focussing of analysis on the collective level, and the ways knowledge-standards emerge from group-activity, as a communicative property of that activity. In recent decades, phenomenology and phenomenography have gained traction in a wide range of scholarly journals just as confusion has increased about them. Meanwhile, inquiry examining both approaches has been given far less attention. Each of these approaches considers variation, namely, the qualitatively different ways of experiencing, as a central point of research. This paper examines the characteristics of phenomenology and sketches its rapports with phenomenography. The information science literature in six major scholarly journals of information research is examined to appraise the accounts of phenomenology and phenomenography. For the sake of clarity, uses of phenomenology and phenomenography are discussed in light of the concept positivism. It

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is observed that phenomenography is a subset of phenomenology. In addition, phenomenographic discourse is shown to relay positivism. Under-utilized areas of phenomenology are identified, and paths of future work for information research are proposed. Behavioural strategy deals with strategic management from a psychologically informed perspective, integrating emotional aspects in strategic management. Strategic situations can be characterised by a high level of uncertainty, based on the unforeseeable nature of the future and the paradoxical nature of underlying seemingly conflicting choices. Both entail human emotional reactions such as fear and anxiety. Therefore, the micro-foundations of dynamic capabilities theory should pay more attention on the study of fear in the strategic decision-making process. Psychoanalysis and psychotherapy have long-term experience in researching these emotions, such that psychodynamic theory can help with understanding their influences on the thoughts and feelings of the manager, the management team, and the organisation in the process of strategy making. With respect to motor control and learning two theoretical approaches are distinguished. One, the motor systems approach, is characterized by the use of information processing models and hypothetical constructs framed in cognitive terms. Such models and constructs are rejected by proponents of the second approach. The latter, action systems approach, is inspired by Gibson's work. Two kinds of action systems theories have been developed, a 'Gibsonian' one (e.g., Reed), and a 'Neo-Gibsonian' one (e.g., Kugler). The Gibsonians try to explain motor behaviour as a function of information specifying the environment, the Neo-Gibsonians resort to physical principles guiding the behaviour of energy consuming open biological systems [5-7].

Nurse educators must keep abreast of contemporary learning theory so that their teaching reflects current ideas of best practice. In view of this, it is important to report on recent developments in the field of learning. Of particular significance is the fact that behaviouristic explanations of learning have largely been replaced with cognitive perspectives which emphasise the complexity of the learning process. Memory, learning, problem solving and expertise have all been investigated from a cognitive stance. The highlights of this work include, firstly, the portrayal of learning as an active, constructivist, cumulative and self-regulated process leading to the development of understanding and complex, skilled performance. Secondly, the highly important role played by knowledge in learning has been identified and described. Lastly, novice-expert differences in problem solving and academic and practical performance more generally, are well understood as a result of investigations of expertise in many domains. In this paper, these three significant perspectives from cognitive psychology will be examined and their implications for the education of undergraduate nurses described. Developments in the field of nursing that reflect or challenge a cognitive outlook are also identified. Clinical psychology finds itself with a paradox: On the one hand, there is abundant empirical evidence showing that aversive experiences increase the risk for psychopathology. In fact, a learning and memory framework forms the foundation of numerous psychological theories and treatments. For example, various CBT approaches aim to target maladaptive emotional memories (e.g., schemas or cognitions) that are deemed to lie at the core of mental health conditions. On the other hand, a new approach - the network theory is gaining ground, which ignores underlying causes for mental disorders and instead dictates a focus on symptoms and their causal interactions. While radical shifts are sometimes necessary in science, we argue why completely neglecting common causes, such as emotional memory, is not justified. We critically discuss the strengths and limitations of the network approach: While its transdiagnostic nature and recognition Page 2 of 2

of symptom interactions have the potential to invigorate the field, the framework is merely descriptive, its concepts not well defined, and its clinical utility still to be established. To move forward, we propose an incorporation of latent constructs into the network model, starting with clearer definitions and operationalisations of concepts in both network and latent variable models. Robert Yerkes is a pivotal figure in American psychology and primatology in the first half of the twentieth century [7-10].

#### Conclusion

As is well known, Yerkes first studied ape intelligence in 1915, on a visit to the private California laboratory of the psychiatrist Gilbert Hamilton, a former student. Less widely appreciated is how far the work done at the Hamilton lab, in its aims and ambitions as well as its techniques, served0020as a template for much of Yerkes's research thereafter. This paper uses the Hamilton–Yerkes relationship to re-examine Yerkes's career and, more generally, that of American psychology in the early twentieth century. Three points especially are emphasized: first, the role of Freudian psychoanalysis as a spur to Hamilton's experimental studies of ape intelligence; second, the importance of Hamilton's laboratory, with its semi-wild population of monkeys and ape, as a model for Yerkes's efforts to create a laboratory of his own; and third, the influence on Yerkes of Hamilton's optimism about experimental psychological studies of nonhuman primates as a source of lessons beneficial to a troubled human world.

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## **Conflict of Interest**

None

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