

Chapter 4

Rethinking Bloom's Taxonomy: Implicit Cognitive Vulnerability as an Impetus towards Higher Order Thinking Skills

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ABSTRACT

Implicit cognition is an intriguing area of focus when one considers the impact of implicit memory theories upon each learner's cognitive vulnerability when framed through Bloom's Taxonomy of the Cognitive Domain. Specifically, consider the learner's cognitive understanding and movement from the lower order thinking skills, say from the Knowledge realm and Comprehension realm, towards the higher order thinking skills, Synthesis realm and Evaluation realm, or one of the revised domains to reflect Digital Age expectations. Although much is available on the different levels of cognitive achievement, the "in between" leaps in a learner's ability to work with the information in new and different manners may suggest that the cognitive vulnerability may impact the learner's implicit memory and the learner's movement between different taxonomic levels of informational understanding.

INTRODUCTION

Implicit cognition is an intriguing realm to consider; the impact of implicit cognition upon the ways that people understand knowledge is associated with the ways through which people perceive, remember and work with learned information. Engagement with knowledge at higher levels of understanding, such as reflected within Bloom's

Taxonomy of the Cognitive Realm (Bloom, 1956; Bloom, Englehart, Furst, Hill & Krathwohl, 1956; Krathwohl, Bloom & Masia, 1964) as well as Anderson and Krathwohl's revised Taxonomy for the Digital Age (2001), is more explicitly associated with a person's cognitive understanding of and ability to work with information from the lower order thinking skills towards the higher order thinking skills. Of importance are memory

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theories, due to the ability of the learner to access learned knowledge while framing that same knowledge in new and different ways; as such, the implicit memory of the learner is of vital importance towards the success of the learner's understanding of and ability to work with the subject matter in new, creative and innovative ways. To more fully support the discussion, it is of vital importance to more directly discuss four different areas of emphasis within the discussion, namely: implicit memory theories; Bloom's Taxonomy of the Cognitive Domain (Bloom, 1956; Bloom, Englehart, Furst, Hill & Krathwohl, 1956; Krathwohl, Bloom & Masia, 1964); Anderson and Krathwohl's Revised Taxonomy of the Cognitive Domain (2001); and, the concept of Vulnerability as pertains to the learner's cognitive efforts. After more fully framing the background information, the objectives of the chapter focus upon framing the implicit cognitive framework through which these leaps in conception and understanding may occur within Bloom's work and Anderson and Krathwohl's revised efforts.

BACKGROUND

The theoretical framework undergirding the thought processes associated with the suggestion of implicit cognitive vulnerability is imperative. As such, the theoretical and modeling efforts within this section revolve around implicit memory theories, Bloom's Taxonomy of the Cognitive Domain (Bloom, 1956; Bloom, Englehart, Furst, Hill & Krathwohl, 1956; Krathwohl, Bloom & Masia, 1964), and Anderson and Krathwohl's Revised Taxonomy of the Cognitive Domain (2001).

Implicit Memory Theories

To begin this discussion on implicit memory theories, one may reflect upon Ryle's (1949) discussion as pertains to the motives behind why there

may be a differentiation in thoughtful reflection and understanding and the physical and mental abilities and processes of the learner:

Why are people so strongly drawn to believe, in the face of their own daily experience, that the intelligent execution of an operation must embody two processes, one of doing and another of theorizing? Part of the answer is that they are wedded to the dogma of the ghost in the machine. Since doing is often an overt muscular affair, it is written off as a merely physical process. On the assumption of the antithesis between 'physical' and 'mental', it follows that muscular doing cannot itself be a mental operation. To earn the title 'skilful', 'cunning', or 'humorous', it must therefore get it by transfer from another counterpart act occurring not 'in the machine' but 'in the ghost'; for 'skilful', 'cunning' and 'humorous' are certainly mental predicates. (p. 32)

One may suggest that Ryle's discussion revolved around the mental operations that naturally are of an interworking nature with the physical manifestations. More importantly, towards the topic framed within this manuscript, Ryle offers the following:

But it is admitted by those who believe in the legend of the ghost in the machine that no one yet knows much about the laws governing the supposed workings of the mind, while the postulated interactions between the workings of the mind and the movements of the hand are acknowledged to be completely mysterious. Enjoying neither the supposed status of the mental, nor the supposed status of the physical, these interactions cannot be expected to obey either the known laws of physics, or the still to be discovered laws of psychology. (p. 52)

Although much has been learned since 1949, the basic emphasis offered by Ryle (1949) is that

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