

Chapter 4

Tentative Taxonomies

ABSTRACT

Because of their extensive generality, concept maps can range from the very intuitive, heuristic and free flowing on one hand to the very analytical, arcane and formulistic on the other hand with mind maps on one end of an intellectual style scale and the use of highly abstract concepts maps in computer science spatial thinking maps on the other. While the very generality of the concept of concept maps may have contributed to its increasing and extensive use in all disciplines, the range and diversity of the concept has not help in its understanding. This chapter proposes to apply two cognitive styles theories to three specific concept mapping techniques to develop tentative taxonomies which may help to increase the understanding of the nature of concept maps and how they are and can be used.

DISCUSSION

Researchers who have constructed maps aside from those mentioned in the previous chapter include Fisher (1990), Jonassen (2000), Herl (1999) and O’Neil (1999) among others (Shum 2003, Reed 2007) have used concept maps extensively in the field of computer science. Ackermann (2001) and Eden (2001) maps in which both nodes and causes can be expressed in a word, sentences or even paragraphs, regard their concept maps as “cause maps” because the arrows that connect the nodes as indicate a causal connection. For Bahr (2001), Chmielewski (1998), O’Donnell (2002) and Rewey (1991) concept maps are “knowledge maps” with an emphasis on scaffolding as are

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Dialogue Maps, developed by Conklin (2003) and extended to Conversational Modelling by Martaan Sierhuis (2008). Argument maps, first proposed by J. H. Wigmore () are aids in the teaching and analysis of law with the objective of “laying out” the structure of an argument to plead a case. Parallel to Argument Maps are Horst Rittel’s Issue Maps derived from an “Issue-Based Information System” (IBIS), which added a developmental function to scaffolding rules.

In addition to these versions of concept mapping, Tony Buzan has added a pictorial dimension to the technique in his Mind Maps, while David Hyerle has developed a version of concept mapping called Thinking Maps ® that can be attempted to make concept mapping less verbal and more rule based than those previously encountered. This chapter intends to get a better handle on the ubiquity and diverseness of concept mapping by drawing up tentative taxonomies based on cognitive styles theory and practice. Specifically the chapter includes a discussion of the cognitive styles theories of Hermann Witkin and Olesya Blazhenkova and Maria Kozhevnikov (aka, B&K) on and how cognitive style theories they may be used as a basis and frames for and for constructing these taxonomies. Novak’s more restricted use of concept maps, Bazun’s Mind Maps and Hyerle’s Thinking Maps will be a as a very limited data set to test and illustrate the tentative taxonomies which may be used for further research to gain a better understanding of this rather amorphous topic.

Buzan Maps

Tony Buzan’s Mind Maps are often created around a single concept, drawn as an image in the center of a blank landscape page, to which associated representations of ideas such as pictures and words are added as concept nodes radiating from the center. Mind Maps, as made popular and taught by Tony Buzan, mind maps are usually drawn by hand and could be considered a spider maps because of its structure where branches with nodes radiate out from a central idea, theme, or target as per Figure 1 (Buzan, 2005).

Anthony “Tony” Buzan (1942 -) is an English author and educational consultant, who popularized the idea of “mental literacy” and mind mapping as a technique to improve mental performance. Buzan was born in England, went to secondary school in Vancouver, Canada, Palmers Green, where he was Head Boys’ Prefect 1959-60 and completed his undergraduate studies at the University of British Columbia, where he spent a year as a graduate

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