Fractal intelligence development

The "David Star" Model

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Abstract. The fractal intelligence development model uses the "David Star Model" to offer an understanding of unity in variability for human differentiation, giftedness, evolution, and adaptation in structuring the individual set of dimensions and values.

Keywords. Fractal intelligence, david star model, giftedness, gifted students

Introduction

Many researchers in educational psychology noticed some behaviour patterns that seems to be universal in human terms. Jean Piaget, and Edward De Bono made some observations regarding the repetition of some structural patterns regarding domineering behavior, and group relationships in cooperating environments. Piaget noticed the repetition of a three-position pattern (domineering, dominated, pacifist), De Bono noticed the repetition of a six -position pattern (six thinking hats). Renzulli also created the three-ring model that characterizes giftedness. Many other models suggest that there are two different kinds of psychological characteristics interfering within a human mental formula, but there are in fact two main generators of characteristics, a natural human set of characteristics, and a socially nurtured set of characteristics.

1. Structural Niches Model vs. Fractal Development

1.1

These observations led to a fractal development in the structural niches model, that can explain both directions of differentiating aptitudes, and the dynamics of intelligence development (see Fig [1]).
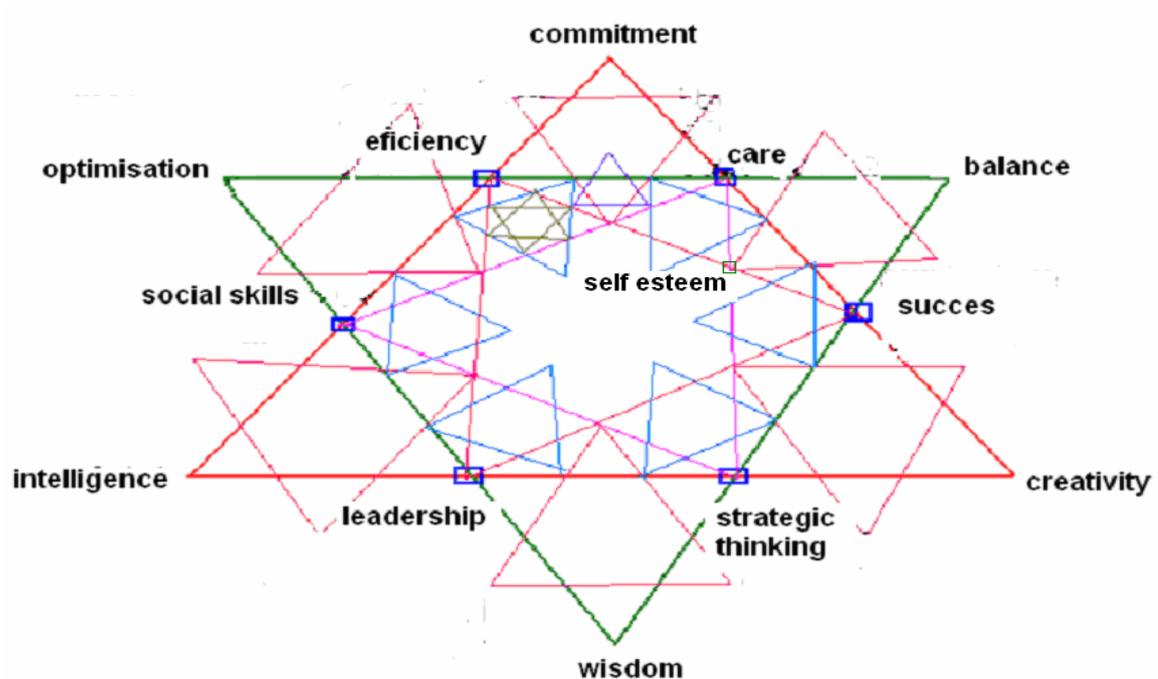
Fig 1. Fractal intelligence model. Author: Florian Colceag.

Fractal intelligence is developed by the interfering of two sets of characteristics, one corresponding to the social characteristics of humans (commitment, intelligence, creativity), and the other one to the natural characteristics of humans (wisdom, balance, optimization).

The interference among these characteristics is determined by a certain topology, and will generate other characteristics. For example intelligence and wisdom will generate leadership capacities, and the second set of characteristics will be able to recover the primary characteristics, for example leadership and strategic thinking will generate wisdom. The opposite characteristics will generate dimensions of human intelligence behaviors. For example wisdom-commitment will generate the "to-do dimension", intelligence-balance, the "to-be dimension", creativity-optimization the "to- have dimension". The second set of opposite characteristics will generate different dimensions: social skills-success, the "to-become dimension", leadership-care the "to- protect dimension", and efficiency-strategic thinking, the "to- succeed dimension"

The main generating model will engender other new characteristics that can be described by smaller David stars models. Those new characteristics will correspond to new structuring dimensions. For example, care and success will not generate only balance, but also self- esteem, creating a new psychic dimension, the "harmony dimension".

The main characteristics modeled by the main David Star can be considered as general for the human species. The smaller David Stars can be considered as connected with cultural local model, even smaller David Stars can be connected with family models, or even individual characteristics.

These characteristics are created by the interference between the social-cultural needs expressed in niches of needs, and profiles of personality corresponding to these niches, and the individual personal aptitudes which can be developed into a symbiotic correspondence with these social niches.

The level of richness of this symbiosis can describe giftedness into a complex socio-cultural, economic, individual context, and can measure success.

The model is not deterministic, giving a big degree of individual and cultural freedom, but is self- sustainable for each people's logic. There are various degrees of cultural and individual specificities describing both cultural dimensions of thinking, and individual abilities adjusted to various social and economic niches.

This fractal intelligence model allows us the understanding of unity in variability for human differentiation, giftedness, evolution, and adaptation in structuring the individual set of dimensions and values.

1.2 Conclusions

We can therefore understand why and how students in a classroom will differentiate the own characteristics, and why they have stable roles into the class economy of communication (for example, the leader, the clown, the dumb, etc.). We can also understand why there are two students competing for the same position, each one developing slightly different personal reactions, and skills in the same learning environment.

All this is due to the following: the normal tendency for a group of people to structure itself as shown in the David Star model, and to extend the generating model for new characteristics into smaller David Stars in a fractal way. These characteristics explain why a big group of people can be led, why they obey to the same rules or customs, and why there are differences between the David Star dimensions of a nation's leader, and the David Star dimensions of a simple family man.

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