

chapter

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Innovative Visualization Practice

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For any innovative visualization to be persistently practised, normally it is based from three levels of understanding and representation. These levels can be represented from macro, sub-micro and symbolic interpretations. The kinds of model that can be expressed in 'external representations' – that physically can be shown and available to others and 'internal representations', where the focus is mainly on our own cognitive process or to an individual person mind. In this case, the practice came from the process of the visualization and innovative process of judgement. Visualization, perceives the world around us symbolically, being continuous and without structure, ontologically the presentation with purpose and intended to serve, however, because of our survival and the capacity of thinking extends, it develops a new meaning about visualization and mental actions that are able to explain the natural world and its systems through a new language of sign.

The first model of innovative visualization, being developed based from the macroscopic level. Giving an attention to a formal aspect of visualization in which some natural phenomena have been abstracted or detached from the whole systems for the purposes of the study or evaluation. The macroscopic level is therefore a representation of a portion of the worlds as experience that science is able to explore conveniently and factually. It gives a clear picture regarding a scientific process of complex mixtures of a natural whole that can be liberated from constraints of friction and revealed as reality.

The second model, the sub-microscopic level. These consist of representations of those who underlie the macro level, giving the tangibility and the properties of the presentation regarding pure solution, for example in science, cells are used to explain the structure of a leaf. In art, the medium describes the language of an object and the interpretation of a subject within the existing historical contexts and codes.

The third level, the symbolic level, it consists of any qualitative abstractions used to represent the sub-microscopic level which becomes mostly conceptual and can be presented to indicate through signs, codes, and types of natural phenomena at their positions and numbers. It is highly desirable and may be called 'meta-visual capability' or 'meta-visualization', for which a multi-disciplinary team is needed in order to improve the innovative visualization to take place.

From these three levels of execution, all types of activities involved an evaluative visualization and normally concerned and derived from the external representation and the systematic approach of public display of information in the form of images, simulation, installation, diagrams and texts. In addition, it is also concerned with the 'internal representation' – the mental image and the emotion, memories and experiences that are linked with reality of the process as facts of phenomena. The attainment of this visualization in a particular case can be shown by the production, expression, and the exploration of scientific research that can be retained and capable of mental use in the making of prediction about the behaviour of a phenomena under specific situation and condition. So, this method will enhance in producing an innovative product and involving the ability to acquire, monitor, integrate and extend the visualization based either on the purpose for which representation is created or on the dimensionality of the product for both art and science.