For what is known to be the Inductive teaching model originated from Taba's initiative works with children and saw the supports of the U. S. Office of Education. Considering the place of Taba's Inductive Teaching Model and its value in education, it is sorted among the most influential teaching models in history. This papers therefore seeks to explore and review the "Inductive Thinking/Teaching Model" whose origin can be traced to Hilda Taba and her first works involving children's thinking. Before progressing to discuss the Inductive Thinking/Teaching Structure, it is necessary to review Taba's concept about thinking and its development into a teaching model which many educationists advocate for in present times.

Taba's Conception of Thinking

Taba's conception of thinking emanated from her membership of an evaluation staff in the Eight Year Study in the 1930's which was sponsored by the Progressive Education Association (1932-1940). Taba's social studies curriculum was founded on the Eight Year Study of which she was a member. The Study distinguished thought processes whose progress was later measured using diagnostic evaluation instruments which they developed. Major objectives that were identified in the Eight Year Study were further categorized into three (3) narrow and specific areas. Among them were; the ability to make generalizations from specific data, apply known concepts to unknown/new situations and do perform critical thinking activities (Taba, 1964; Michelle, 1986).

Using the Eight Year Study as her podium of reference for the social studies curriculum, Taba founded the curriculum in three major categories of cognitive tasks; 'Concept Formation, Grouping/Classification, Interpretation, Identifying, and Explaining relationships among Data, the Application of Principles, and Explaining new Phenomena through hypothesis and predicating results from Known to Unknown concepts'.

The objectives also gave reverence to the sought for assistance and verification of predications and hypothesis in the final aspect but however had critical thinking excluded as the curriculum was not rooted in critical thinking perspective (Taba, 1964; Michelle, 1986).

Researching basically thinking among children, Taba's works had foundational orientations in previous studies, researches and works that were done in cognition. Cognition and thinking are replaceable conceptions with contextual meanings which however share akin structures on theoretical basis. In this light, Taba's conception of thinking were founded on the contextualized studies of cognition; Piaget, (1953), Dewey, (1933), Bruner, (1956) and Guilford, (1960). These studies formed the fundaments of the Inductive Teaching Model that was rooted in Her Contra Costa Social studies Curriculum in California, 1964 (Piaget, 1953; Dewey, 1933; Bruner, et al., 1956; Guilford, 1960; Taba, 1964; Michelle, 1986).

Before discussing the conceptual thinking structure of inductive thinking generated and developed by Hilda Taba, the cognition-oriented conceptions that emanated from precious cognition need to be reviewed. Basically, the areas of the cognition studies from the cognition researchers mentioned earlier where Taba adopted into Her research works would addressed. The why and how relevant those areas of emphasis are that led to their adoption would be investigated through an analysis of the cognition literature from previous studies. This is necessary to draw a link between Taba's thinking concept and previous thinking studies carried out and would demonstrate also the relationships that exist among them.

Bruner's Thinking Category

Jerome Bruner, (1915-2016) was American psychologist and scholar who together with his colleagues; Goodnow and Austin developed a study of thinking they title "Categorizing". A Study of Thinking, (1956), their land mark book of which the study was found, is relative to the 'concept formation' (first strategy) of the Taba's Inductive Teaching Model. Bruner, et al., (1956) proposed two categorization components; the act of categorizing formation and concept attainment (Bruner, et al., 1956; Taba, 1964; Michelle, 1986).

Bruner and associates' categorizing thinking had components of learner being characterized as 'active tester of hypothesis' which Taba adopted focusing on cognitive processes such as discrimination, grouping and labeling which were incorporated in the Contra Costa curriculum of social studies in 1964 (Bruner, et al., 1956; Taba, 1964).

Guilford's Structure of the Intellect

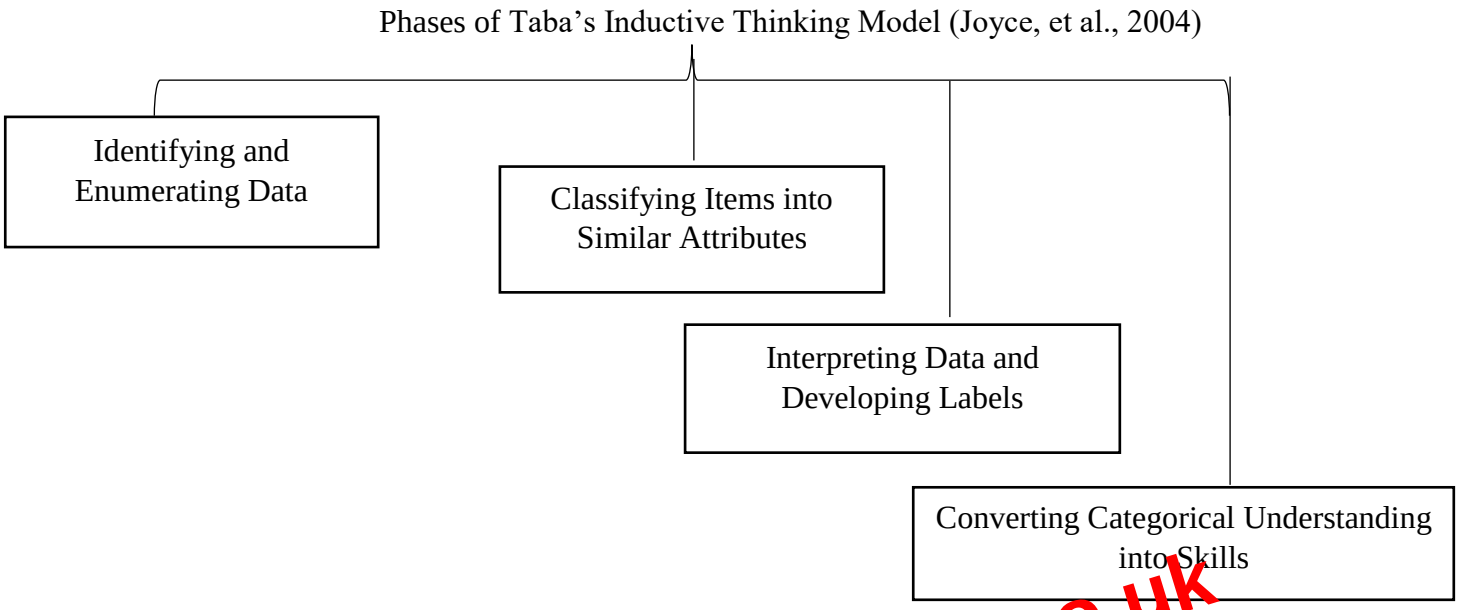
Joy Paul Guilford (1897-1987), an American psychologist was noted for his psychometric study of human intelligence where he distinguishes between the convergent and divergent production. His study of the structure of the intellect in 1959 facilitated thinking conceptions through the differentiated divergent or creative thinking functions. He contributed in a spectrum to the theorization of thinking and general cognition among humans. Guilford's theory and model made of four operational cognitive stages were incorporated into Taba's Inductive Teaching Model. Among them included; cognitive recall of knowledge, convergent thinking (analysis and recall of conceptions that produce specified results), divergent thinking (creation of new ideas oriented towards new directions) and evaluation of thinking (judging one's values, choices and ethics) (Guilford, 1959; Taba, 1964).

Assumptions of the Inductive Teaching Model

According to Taba, (1967, 1964), the Inductive Teaching/Thinking Model was developed with seven (7) fundamental assumptions. These assumptions guided and shaped the objectives, structure and strategies of the Teaching/Thinking Model. They make up the following; the first assumption was that thinking skills can be taught. Second, thinking constitutes active transaction between an individual and data and or concepts they are working with. That is, Taba indicated that, concepts or data gathered can only make meaning if the individual can cognitively conceptualize them (Taba, 1967, 1964, 1962; Michelle, 1986).

In addition, the third assumption included that, thinking capabilities can not be transferred from teachers to students neither can it be "given". However, provision of appropriate learning activities according to Taba can help students develop thinking. This she prioritized depends on the relevance of the content presented to students. The fourth assumption however indicated any and all subjects offer appropriate thinking content for students. All school children have abstract thinking potentials at diverse levels; this make up the fifth assumption whereas the sixth one established that precise teaching and learning strategies can be developed to encourage and improve thinking of students. The final assumption states that, since thinking takes many forms, it should be clear which thinking process one should adopt (Taba, 1967, 1964, 1962; Michelle, 1986).

Figure 3: The Inductive Thinking Phases Summary (Joyce, et al., 2004)



Source: Authors Survey, 2017