

**A STUDY OF VAN HIELE LEVELS OF GEOMETRIC THINKING  
AT THE MIDDLE BASIC EDUCATION  
IN NASARAWA STATE OF NIGERIA**

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This was an empirical study which used the quasi-experimental design to investigate the attainment of Van Hiele's 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> levels of geometric thinking by pupils at Middle Basic Education level in Nigeria. A 38 multiple-choice geometric test achievement designed on Five Geometric Concepts: Circle, Square, Isosceles Triangle, Congruence and Parallel lines, and which were validated and tested for reliability ( $r = 0.73$ ), was used to collect data for the study. Pre and posttests were administered to (randomly selected) 60 primary-six pupils to determine their levels of Geometric thinking at the Van Hiele's 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> levels. Two research questions and two research hypotheses designed to guide the study were statistically tested using the following statistical techniques: Variance, Markov Chain, Covariance, Kuder-Richardson (K-R(21)) Formular and linear regression. Results indicated the pupils were at mostly level 1 of Van Hiele's geometric thinking. A significant difference ( $P \leq 0.05$ ) was observed in students achievement. Out of many factors affecting students performances, teaching using Van Hiele Model contributed about 17% which is significant to students' performance. On the strength of the findings from this study, implications and some recommendations are offered and areas for future research are specified.