

APPLICATION OF GENERALIZABILITY THEORY IN THE ESTIMATION OF VARIANCE COMPONENTS IN NATIONAL EXAMINATION COUNCIL ESSAY QUESTIONS IN CHRISTIAN RELIGIOUS STUDIES IN OGBA/EGBEMA/NDONI LOCAL GOVERNMENT AREA OF RIVERS STATE, NIGERIA

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ABSTRACT

The study utilized generalizability theory in estimation of variance components in National Examination Council Examination Council Essay Questions in Christian Religious Studies. The design of the study was two facet fully crossed G-study and D-study. The population of the study was 1228 senior secondary schools three (SS3) in Ogba/Egbema/Ndoni Local Government Area of Rivers State, Nigeria. Cluster sampling method was used to select 175 students for the study. The instrument for data collection was 2020 August/September National Examination Council in Christian Religious Studies Essay Questions. Data obtained was analyzed using computer software SPSS through General Linear Model via variance components MINQUE method. Results of the study showed that the largest contribution to error is person by item by rater (∂^2_{pir}) (5.244) with the percentage variance of (46.654%) and person by item (∂^2_{pi}) (4.361) with a percentage variance of (38.43%), person by rater (∂^2_{pr}) (0.425) with a percentage variance of 3.76%, person (∂^2_p) (0.383) with a percentage variance of 3.63%, rater (∂^2_r) (0.77) with a percentage variance of 7.36%, item (∂^2_i) (0.028) with a percentage variance of 0.24%, item by rater (∂^2_{ir}) (-0.06*) with a percentage variance of -0.74%. Also, the universe score was 5.6466, relative error variance was 5.4381, absolute error variance was 0.4383. G-study coefficient was 0.5213 and index of dependability of 0.938 was also obtained which indicated that the instrument was adequate for certificate examination. Recommendations such as there should be more awareness on the use of generalizability theory or analysis of examinee scores for psychometric properties estimate of the instruments used by examination bodies amongst others was made.

Keywords; Christian Religions Studies, Generalizability Theory, Essay Test, Independability, Reliability.