

Effects of Inductive and Deductive Teaching Strategies on Students' Academic Achievement in Basic General Mathematics in Colleges of Education, Oyo State

Folasade Oluwayemisi IYANDA
LCU/PG/002712

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Certification

This is to certify that Folasade Oluwayemisi IYANDA with matriculation number LCU/PG/002712 carried out this research work titled “Effect of Inductive and Deductive teaching strategies on students' academic achievement in Basic General Mathematics in Colleges of Education in Oyo State”, in the Department of Science Education, Faculty of Education, Lead City University, Ibadan, Oyo State, for the award of Master of Science Education Degree (M Sc(Ed)) in Mathematics Education and that this has not been previously submitted.

Dr. C. O. Sam-Kayode
Supervisor

Date

Professor P.O Yara
Head of the Department

Date

Dedication

This research is dedicated to Almighty God

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Acknowledgement

It is my pleasure to acknowledge this citadel of learning, Lead City University, Ibadan, Oyo State, Nigeria for opportunity to be taught and conduct this research work. My profound gratitude goes to my sponsor, Tertiary Education Trust Fund (TETFund) and Emmanuel Alayande College of Education, Oyo for the permission granted to further my study. I also appreciate all in the school of Early childhood Care Education and School of Education in Federal College of Education (Special), Oyo; Oyo State College of Education, Lanlate and Emmanuel Alayande College of Education, Oyo for their help rendered during this study.

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Even though the above mentioned institutions and persons that have assisted in the process of this research work, I alone stand responsible for the errors, if any found in this work.

Abstract

This study investigates the effect of inductive and deductive teaching strategies on students' academic achievement in Basic General Mathematics within Oyo State Colleges of Education. The research focuses on evaluating learning outcomes, knowledge retention, and overall student performance when exposed to these teaching approaches. This study was grounded on constructivism and behaviorism theories of learning. The study employs a quasi-experimental research design. The study's population consists of 3,663 year two students enrolled in the three government colleges of education in Oyo State. A purposive sampling technique is utilized to select intact classes of non-science second-year students. The research employs lesson plans and the Basic Mathematics Achievement Test (BMAT) as instruments for data collection. Reliability of the BMAT was (0.89). Statistical analysis was carried out using Analysis of Covariance (ANCOVA) at a significance level of 0.05. The findings revealed that the effect of treatment on students' academic achievement was significant ($F_{(2,231)} = 89.93, p < 0.05$). There was significant effect of class size on students' academic achievement ($F_{(1,232)} = 52.48; p < 0.05$). Notably, the deductive teaching strategy was found to be more effective in enhancing students' academic achievement in algebraic concepts. This study recommends that educators incorporate both deductive and conventional teaching strategies when instructing Basic General Mathematics, particularly in Colleges of Education.

Keywords: Inductive teaching Strategy, Deductive Teaching Strategy, Students' Academic achievement, Basic General Mathematics

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List of Acronyms

Abbreviation

Meaning

BMAT

Basic Mathematics Achievement Test

JIT

Just in Time Teaching

LCT

Learner-Centered Tradition

TCT

Teacher-Centered Tradition

ZPD

Zone of Proximal Development

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