UNIVERSITI TEKNOLOGI MARA

THE RELATIONSHIP BETWEEN NUMERACY THINKING AND MENTAL COMPUTATION ABILITY WITH BRAIN HEMISPHERICITY AMONG SECONDARY SCHOOL STUDENTS

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Thesis submitted in fulfillment
of the requirements for the degree of
Master of Education

Faculty of Education

September 2012

AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Much concern has been shown towards improving literacy and numeracy by the Malaysian government as reflected in the National Key Results Area (NKRA) of the Government Transformation Programmes (GTP).Taking this as the cue, the focus of this study was to obtain an insight into the relationship between Numeracy Thinking and Mental Computation ability with Brain Hemisphericity among secondary school students ages from 12 to 16. The sample consisted of 414 students in Form 1, Form 2 and Form 4 from six secondary schools located in a district in Malaysia. All the students in this study obtained an A grade in their Mathematic examination. This is a descriptive correlation study using stratified purposive random sampling. The instruments used were the Numeracy Test, Mental Computation Test, Brain Hemisphericity Test. The findings reveal that the students' performance in the Numeracy Test was quite low (mean =36.99 (max =66), SD =7.56) as compared to the Mental Computation Test (mean =27.10 (max =40), SD =7.27). Both the Numeracy and Mental Computation Test has a significant relation with Brain Hemisphericity where high scores were inclined towards left brain students as compared to right brain students. The significant findings of this study also indicate that male students outperform female students in both the Numeracy and Mental Computation Test. The finding is a damning indictment of the examination orientated education and raises questions about the validity of National examination results of Mathematics grades. It is recommended that further research about gender-specific education should be undertaken to analyse these situations.

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