

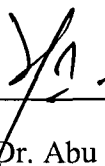
**STUDENTS' LEARNING GAIN IN KINEMATICS GRAPH**

**ZAZA FATIN ATIAH ZAMAN**

**Final Year Project Report Submitted in  
Partial Fulfilment of the Requirements for the  
Degree of Bachelor of Science (Hons.) Industrial Physics  
in the Faculty of Applied Sciences  
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This Final Year Project Report entitled “**Students’ Learning Gain in Kinematics Graph**” was submitted by Zaza Fatin Atiah bt. Zaman, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Industrial Physics in the Faculty of Applied Sciences, and was approved by



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Prof. Madya Dr. Abu Hassan bin Husin

Supervisor

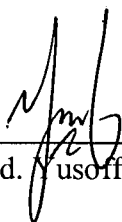
B. Sc. (Hons.) Industrial Physics

Faculty of Applied Sciences

Universiti Teknologi MARA

40450 Shah Alam

Selangor



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PM Md. Yusoff Theeran

Project Coordinator

Faculty of Applied Sciences

Universiti Teknologi MARA

40450 Shah Alam

Selangor

---

Tn Haji Muhammad Isa bin Mohd  
Yusof

Programme Coordinator

B. Sc. (Hons.) Industrial Physics

Faculty of Applied Sciences

Universiti Teknologi MARA

40450 Shah Alam

Selangor

Date : 18 JUL 2013

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## **ABSTARCT**

### **STUDENTS' LEARNING GAIN IN KINEMATICS GRAPHS**

This study investigates students' understanding of kinematics graphs and calculate students' normalised learning gain after an instruction on the topic. The instrument used in this research is the 26-item Test of Understanding Graphs – Kinematics (TUG-K). The samples in this study were 60 physics students from the Faculty of Applied Sciences, UiTM Shah Alam. The TUG-K were administered twice to the students: the pre test at the beginning of the semester and the post test after the fourth week of the semester. The students were given 45 minutes to complete the test. The data from the pre and post test were analyzed and the student normalised learning gain (NLG) were computed by using the Statistical Package for Social Science (SPSS) software. In general the students TUG-K scores were poor, indicating their great difficulties in understanding kinematics graphs. This finding is enhanced by student NLG calculation where 33% of the students show negative gains, 57% of them are in the zero to moderate gain, and only 10% of the students are in a high positive NLG values.

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