C740994 : MAJOR SCIENCE EDUCATION

KEY WORD : PROBLEM SOLVING PROCESS DEFICIENCIES IN APPLIED PHYSICS I

TANUTTA CHAYKHUNTHOD: A STUDY OF PROBLEM SOLVING PROCESS DEFICIENCIES IN APPLIED PHYSICS I OF TECHNICAL INDUSTRY STUDENTS AT DIPLOMA LEVEL, RAJAMANGALA INSTITUTE OF TECHNOLOGY, BANGKOK METROPOLIS. THESIS ADVISOR: ASSO.PROF. THERACHAI PURANAJOTI , Ed.D. 86 PP. ISBN 974 - 634 - 884 - 1

The purposes of this study were to investigate applied physics 1 problem solving process deficiencies of technical industry students at diploma level and students who had different industrial science learning achievement. The students were 272 first year industrial arts students of Rajamangala Institute of Technology in Bangkok in the academic year 1996. The research instrument was the problem solving test constructed by the researcher with the reliability of 0.97, the level of diffculty of 0.37 - 0.78 and the power of discriminstion of 0.26 - 0.72. The data were analyzed by means of frequency and percentage.

The findings of this study were as follows :

1. Most of the students had problem solving process deficiency in the fifth step, calculation for the answer, followed by the fourth step, substitution of data in physics formula; the sixth step, identification of unit for the answer; the third step, writing the formula; the second step, analyzing the problem for what were provided ; and the first step, analyzing the problem for what were desired to know, respectively.

2. Most of the students in the groups with highest and average science learning achievement had not different in problem solving process deficiency in each step. Their most problem solving process deficiency falled in the fifth step, followed by the fourth, the sixth, the third, the second and the first steps, respectively. Most of the students in the lowest science learning achievement group had problem solving process deficiency in the fifth step, followed by the fourth, the sixth, the second, the third, and the first steps, respectively.

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ลายมือชื่ออาจารย์ที่ปรึกษา

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม -