

เท่ากับ 122 ซึ่งไม่มีนัยสำคัญทางสถิติ (ค่า $P = 0.159$) แสดงว่า โมเดลการวิจัยมีความสอดคล้องกับข้อมูลเชิงประจักษ์

3. เกณฑ์ปกติ (Norms) ของแบบวัดความสามารถในการแก้ปัญหา นักเรียนชั้นมัธยมศึกษาปีที่ 5 ตั้งกวดสำนักงานเขตพื้นที่การศึกษามัธยมศึกษาเขต 29 (อุบลราชธานี-อำนาจเจริญ) มีคะแนนที่ปกติ (T_c) ตั้งแต่ T_{23} ถึง T_{65} ซึ่งความสามารถในการแก้ปัญหาอยู่ในช่วงระดับต่ำมาก - ระดับสูง



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TITLE : A Construction of Problem Solving Test in Physics on Force and Motion for Matayom Suksa 5

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ABSTRACT

The purpose of this study were to construct , determine the quality, and find the noms referenced of problem solving test in physics on force and motion for Matayom Suksa 5 . A total of 596 subjects, selected by using the multi-stage random sampling medthod, consisted of 596 students in Matayom Suksa 5 under The Secondary Education Service Area Office 29 in the 1st semester of 2010. The research instrument use for gathering data was an 10 items essay - restricted response test using Polya's problem solving steps of problem solving. The test's quality was verified to the content validity , the difficulty indices, the discrimination indices, RAI , the reliability coefficient , the construct validity and build the noms.

The research finding were as follows :

1. The problem solving test in physics on force and motion for Matayom Suksa 5 was an 10 items essay - restricted response test using Polya's problem solving steps of problem solving : Understanding the Problem, Devising a Plan, Carrying Out the Plan and Looking Back. It took about 90 minutes to complete the test.

2. The difficulty indices were in the range from 0.47- 0.67 , discrimination indices were in the range from 0.31-0.63 , RAI was 0.99 and the reliability coefficient was 0.95. The construct validity within the test by using confirmed component analysis : Chi-Square was 364.14, degree of freedom was 122 and P-value was 0.159. The model fitted well the empirical data .

3. The norms (T_c) of the problem solving test in physics , students in Matayom Suksa 5 under The Secondary Education Service Area Office 29 range from T_{23} - T_{65} . The problem solving of students range from extremely low – high .



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