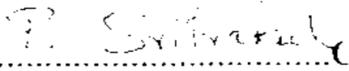


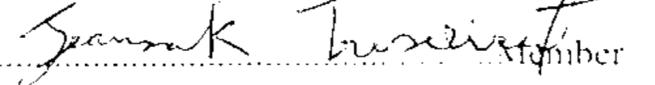
THESES TITLE : A CONSTRUCTION OF ESSAY TEST FOR SOLVING MATHEMATICAL
PROBLEMS ON SET FOR MATHAYOM SUKSA IV LEVEL.

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Abstract

The purposes of the present study were 1) to construction an efficient essay test to measure the Mathayom Suksa IV students' ability in solving set problems and 2) to investigate the flaws in students' solving of set problems. The sample consisted of 194 Mathayom Suksa IV (Grade 10) students under the jurisdiction of the Department of General Education, Muang District, Khon Kaen Province. The students were selected by means of two - stage random sampling . The instrument used in the study was an essay test on solving set problems . The results showed that:

1) On the aspect of the quality of the test , it was found that the test has a difficulty level of .50 - .79 , an item discrimination of .39 - .71, a reliability of .79 . The examination papers were marked by two examiners whose marking showed a reliability of .95 . The test also bore a content validity.

2) On the aspect the flaws in the students' solving of the set problems , it was found that 144 students made flaws, while the other 50 did not . The flaws made by the students, arranged according to the ratio between the frequency of the flaws made at each stage and the total possible flaws at each stage of solving the problems, are shown in the order of greatest flaw to the least as (1) understanding of the problem, (2) Carrying out the plan, (3) devising a plan for solving the problem, (4) checking the answers and (5) interpreting the answers . The 6 flaws found most frequently, as classified by minor behavioral objectives, are shown in the order of the greatest to the least flaws as: (1) identifying the necessary operation of set in solving the problems, (2) calculating, (3) identifying the number and name of sets necessary for solving problems, (4) identifying stages of solving problems, (5) checking the answers and (6) writing calculation formulas or drawing Venn - Oiler.