

##C640497 : MAJOR EDUCATIONAL MEASUREMENT AND EVALUATION

KEY WORD: DIF METHODOLOGY / THE MANTEL-HAENSZEL / ITEM BIAS / NONUNIFORM DIFFERENTIALLY FUNCTIONING TEST ITEMS / GROUPING OF EXAMINEE'S ABILITY AND ITEM DIFFICULTY

SEREE CHADCHAM : A COMPARISON OF RESULTS FROM THE DETECTION OF NONUNIFORM DIFFERENTIALLY FUNCTIONING TEST ITEMS BETWEEN TRADITIONAL MANTEL-HAENSZEL AND DIFFERENT GROUPING OF EXAMINEE'S ABILITY AND ITEM DIFFICULTY PROCEDURE. THESIS ADVISOR : ASSO. PROF. YAVADEE VIBULSRI, Ph.D. THESIS CO-ADVISOR : ASSO. PROF. TAWEEWAT PITAYANON, Ph.D. 171 pp. ISBN 974-635-801-4

The purpose of this thesis was to compare results from the detection of nonuniform differentially functioning test items between traditional Mantel-Haenszel and different grouping of examinee's ability and item difficulty procedure. The samples were Mathayomsuksa I students totally 1,200 of the secondary schools in Maung District, Chonburi Province. There were 600 males and 600 females. The Thai Reading Ability Test constructed by the researcher was used as a tool for data collection. Firstly, the examinee's ability and item difficulty was analyzed through the program BILOG. Secondly, the detection of nonuniform DIF items using the IRT area method was performed through the programs BILOG, EQUATE, and IRTDIF respectively. Thirdly, the detection of nonuniform DIF items using the MH procedure was performed through the program MHDIF.

The major findings were as follows :

1. Using the IRT area method, 18 nonuniform DIF items were found of which two were difficult items, 13 were moderately difficult items, and three were easier items.
2. Using the traditional MH procedure, the detection rate of nonuniform DIF items showed 33.33% (six of 18 items) consistent with the results of the IRT area method.
3. Using the MH procedure under different grouping of examinee's ability and item difficulty, the detection rate of nonuniform DIF items showed 61.11% (11 of 18 items) consistent with the results of the IRT area method. Compared to the traditional MH procedure, the results of the MH procedure under different grouping of examinee's ability and item difficulty found five nonuniform DIF items (27.77%) more, four moderately difficult items and one easier item. For most of the nonuniform DIF items found, the item characteristic curves of two subgroups crossed close to the middle of the ability range. However, this study did not include false positives.

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